TEXTILE BULLETIN

VOL. 59 FEBRUARY 15, 1941 NO. 12

INSTITUTE RESEARCH SOCIAL SCIENCE

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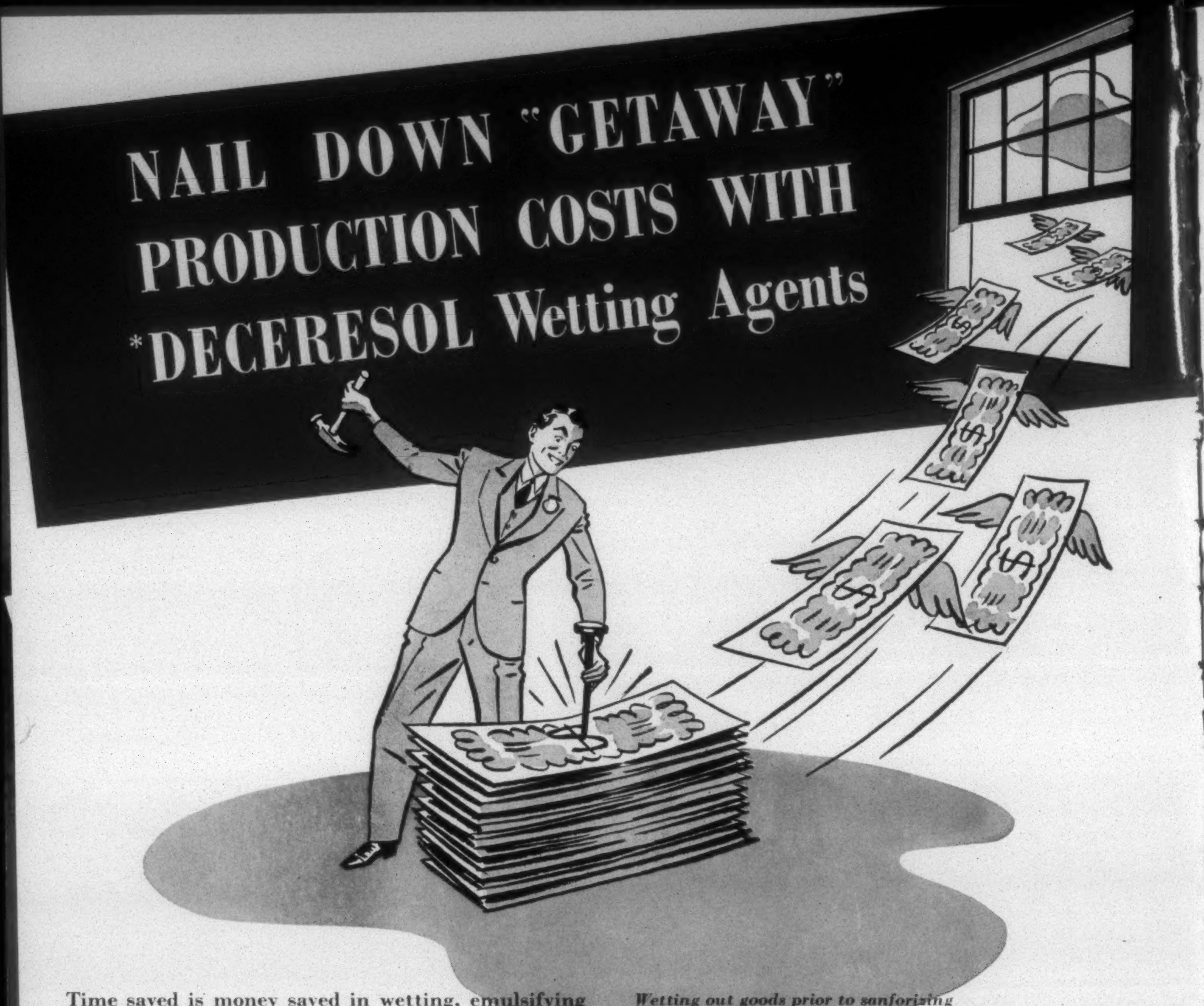

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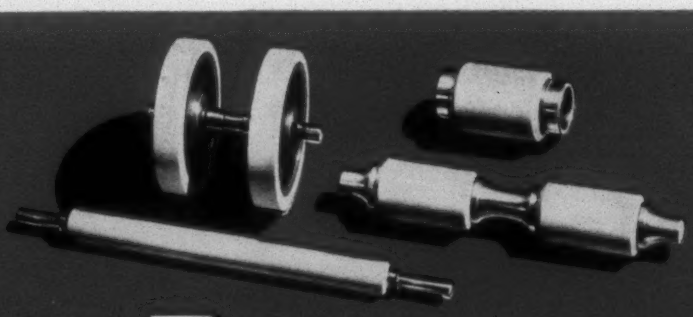

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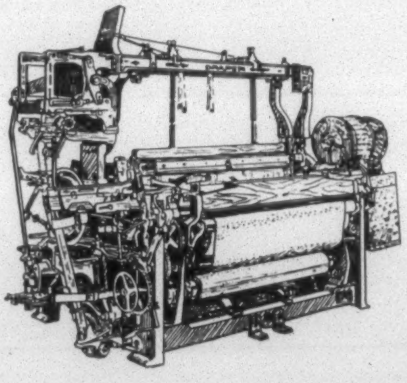

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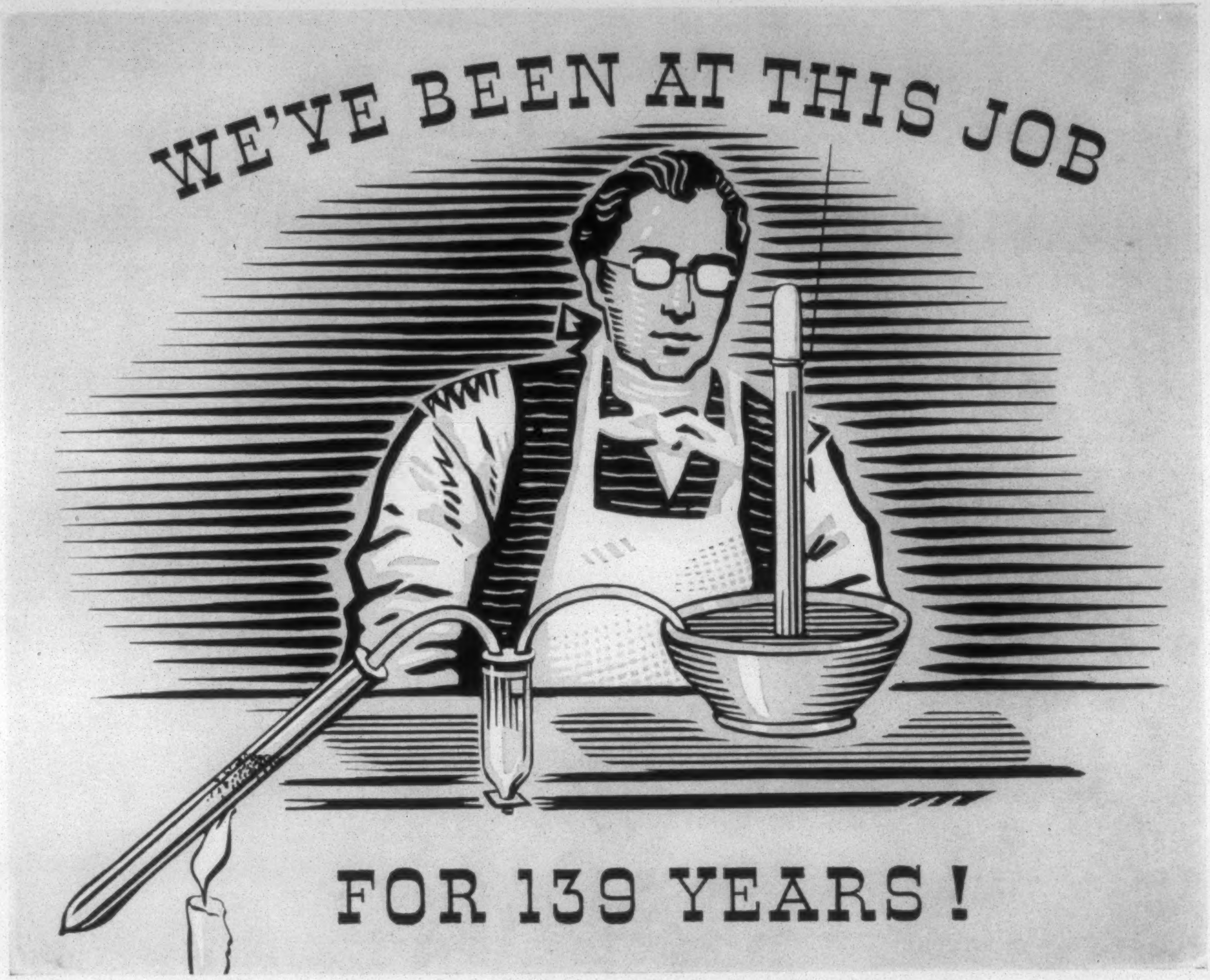
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TEXTILE BULLETIN

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Capital, Labor, and Market Are All The Same

Herman Cone, president of the Cone Mills in Greensboro, N. C., made the following talk at a recent meeting of the overseers and foremen of his mills. In it he breaks down the bromidic terms "Capital," "Labor," "Market," into plain everyday talk that gets the idea over many times as well as the high flying multi-syllable words usually employed to show that all of us are actually capitalists, laborers, and marketers.

I AM SURE that everyone here is most anxious to see that democracy in this country is preserved. While our system of government and economy may not be perfect in every respect, nevertheless it provides a greater measure of freedom to the individual than any other system in the world. We have developed here the highest standard of living for our citizens and have provided them more leisure time in which to enjoy their freedom than any other country in the world.

This system of democracy is built on three basic principles and like a three-legged stool will fall if one of the three props is taken away. They are: First, Freedom of Religion; second, Freedom of the Press; third, the System of Free Enterprise—that is, the right to engage in business for profit. Take any one of these props away and the whole thing will collapse.

Free Enterprise Attacked

In spite of the many advantages that our citizens enjoy, there are people who would like to see us adopt some of the "isms" that have worked so much havoc with the European countries. Those enemies of democracy are smart and have mapped a clever campaign. They know that right now the American people will not stand for an attack on the first prop—that is, Freedom of Religion. They also realize that our people would resent any attempt to control Freedom of the Press. Therefore, their attacks have been directed against the third prop of our stool of liberty—Free Enterprise. To preserve free enterprise the American people must understand it and its accomplishments. I attended a meeting last week in New York of the National Association of Manufacturers, and one of the speakers, Mr. F. C. Crawford, president of the Thompson Products Co., gave such an excellent illustration of Free Enterprise that I am going to take the liberty of using some of his material.

Picture in your mind industry, which is another word for Free Enterprise, as a large triangle. At the top corner place the American market—130,000,000 American people—all of us, everybody that has any requirements at all for food, clothing, shelter. The demands of market upon industry are: More products, better products, lower prices. At the lower left-hand corner put Capital. We find the same 130,000,000 people in this corner. Every person with a life insurance policy, or savings account, or who owns anything at all, is Capital. The natural human demands of Capital are: Reasonable security and greater return.

At the lower right-hand corner place Labor—all of us—the same 130,000,000 Americans. The demands of Labor are: Higher wages and shorter hours.

To repeat, Market wants more for less money. Labor wants more money for less work. Capital wants security and more return.

Management in Awful Spot

In the industrial triangle there is a fourth element—Management. Imagine Management as a figure in the center of the triangle. Management finds itself in an awful spot. It must deal with the conflicting but natural human demands of the three corners. Imagine a rope around the neck of Management and the end in the hands of Market. Whenever Market buys, it yanks the rope, demanding more for less money. Capital holds a rope attached to Management's left leg and pulls it as it demands security and return. Labor holds a rope attached to Management's right leg and pulls it constantly, demanding more money for less work.

For self-preservation Management must find a way to meet the conflicting demands from the corners of the triangle.

Let us take a simple example which can apply to any business: An umbrella factory with one workman named

"Joe." Joe can make one umbrella in three hours and receives a dollar's pay for his work. The manager takes the umbrella to the great American Market. He must sell it for at least one dollar in order to be able to pay Joe's wage. Now of course there were other expenses of the business, such as materials, power, etc., but for the simple example we will just count Joe's wages. After some difficulty, because of this high price, he succeeds in selling the umbrella; returns and pays the dollar to Joe. There is nothing left for Capital. What are the reactions at the end of the first day?

Market is dissatisfied and cries, "The price is too high. No more orders unless you reduce the price." Joe is dissatisfied. He wants a raise. Capital is dissatisfied. It has had no return. It threatens to change management. Management is on the spot. It's job is at stake.

Must Satisfy All Demands

Management, to succeed, must find a way to satisfy the demands of the three corners. In seeking ways to accomplish this, Management studies production problems. It observes that Joe stands at his bench. He turns his lathe by hand, which tires him. Time is lost handling materials.

Management decides to improve the methods of production. It secures additional capital and installs a stool for Joe to sit on, a conveyor to bring the work to him, electric power to operate his machine. These are labor-saving devices that make Joe's work easier and less tiring. It also cleans up the shop and paints to make work more pleasant.

When Joe comes to work the second day, he is surprised at the improvements. Reluctantly he agrees to try them out. His work runs along much more easily and smoothly. To his amazement, at the end of three hours he has made two umbrellas with no more effort than it took to make one the day before. Management says, "Joe, I think we have discovered the great secret of how wealth is produced! You wait here and I'll go to market with these two umbrellas."

Management meets the demand for lower prices and offers the two umbrellas to the great American Market at 75c each. Yesterday's disgruntled buyer appears and is pleased with the bargain price. He buys both umbrellas, one for his wife, and goes away, a happy customer. His demand has been satisfied in the 25 per cent saving on his purchases.

Management returns to Joe and says, "Joe, we've discovered the great secret! We have $1.50 today where we had only $1 yesterday. We have produced an increase in wealth. I can give you a 25 per cent raise and pay you $1.25 for three hours. Joe is happy—his demand has been satisfied.

Then Management reports to Capital that 25c remains in the cash drawer from which a dividend may be paid. Capital's demand is satisfied. All three demands have been temporarily satisfied and successful Management has preserved its own job.

Applies To All Industries

A dollar and a half has appeared where only one dollar existed before. Wealth has been created. The public can now use cheap umbrellas. Their standard of living has been raised by the amount of the saving in the purchase price. Joe goes home happy, his standard of living having risen by 25 per cent. Capital is happy and is ready to buy more tools to make more umbrellas at lower price with higher wages.

That same example will apply whether the workers are making denims, overalls, radios, automobiles. The selling price must be kept down so that Market can buy them.

Joe's Day

At this point it is interesting to follow Joe through a complete day. From 7 o'clock to 3 he makes umbrellas at his bench. He is aware that he belongs to the Labor group. He wants more money for less work. He wonders why the boss doesn't raise his selling prices and cut out dividends so that wages can go up again.

At 3 o'clock he goes home with his pay envelope. With his wife he goes to town shopping. He is now a part of the great American Market. He entirely forgets that he was Labor that morning. He wants to buy an umbrella. He is a tough buyer, demanding lower prices.

At 4:30 he stops to pay his life insurance premium. He is now Capital and tough about it. Why don't they pay him bigger dividends on his insurance? Is his money safe? He forgets that he was Labor in the morning, Market in the afternoon and that he—the same Joe—is now Capital.

It should be noted that Joe profited at each corner of the triangle, because wealth was produced on our second factory day. As Labor he received 25c raise. As Market he received 25 per cent saving through reduced price. As Capital he received larger dividends because industry is now earning profits.

Joe is the American people. Each day the American people go around the triangle of industry. So long as the production of wealth increases, their reward is to be found at each corner—in rising wages, lower prices and in increasing dividends. Thus the standard of living rises.

No Classes In Our System

This story illustrates first and most important that there are no classes in the American System. All of us are Market. All of us are Capital. All of us are Labor. It also shows that this industrial system—free enterprise—is not a system at all. It is simple everyday human nature expressing itself in a land of freedom. Observe the great American Market demanding more pieces at lower prices. Observe Labor demanding more money and less work. Observe Capital demanding security and return.

It is a system which tends to balance itself, thereby distributing wealth fairly. If one corner pulls too hard, the other corners will eventually pull their way and balance it up. Too-high wages and too-low efficiency mean too-high cost and no orders, which result in financial loss to both Capital and Labor.

Capital and Labor

Let us look at results. For over 50 years this simple device of production has turned out wealth as it never was turned out in the world before. The American standard of living has been raised to a point higher than ever before. American wage scales have reached a point higher

(*Continued on Page 52*)

Erecting, Overhauling and Fixing Looms

By Frank D. Herring

Following is the sixteenth chapter of a series of articles on loom fixing and loom maintenance by a practical mill man. Accompanied by illustrations of all portions of a loom, this series will go into minute detail explaining the various motions and their settings, timings, repairs, etc.

Broken Bobbins, and Bobbins on Floor

The weavers should be trained to flag a loom that is dropping bobbins on the floor. Also the loom fixer should watch out for this and work on the loom when he sees bobbins on the floor, because this indicates that something is out of adjustment on the loom. When a loom is dropping bobbins on the floor, it will break one occasionally, and bobbins are expensive.

Proceed as follows to overcome this trouble: First make sure that the shuttle is boxing properly in the battery end of the loom. See that the picker on battery end is in good condition and that the lay end strap is in place, as the shuttle going too deep will cause improper transfer, and consequently broken bobbins and bobbins on the floor. The reason that the shuttle going too deep will cause this trouble is that the small end of the ingoing bobbin will be thrown downward, thereby forcing the small end of the outgoing bobbin downward. The small end of outgoing bobbin will either be caught in between the picker stick guide and the lay and broken, or the small end will strike the picker stick guide and be retarded in its fall, and thereby will not fall until the lay is too far back for it to drop into the quill or bobbin can. Make sure that the lay is positioned correctly in relation to the transferrer when it is all the way down on the transfer. If using the old type or gooseneck shuttle feeler thread cutter, check and determine if the strand of filling on the outgoing bobbin is being cut completely and on time. This strand of filling must be completely severed before the outgoing bobbin leaves the shuttle. Otherwise the strand of filling will retard the fall of the bobbin. Make sure that the groove in the front side wall of the shuttle is sufficiently deep and the shuttle free of any rough or splintered places. See that the leather on the front binder on battery end is in good condition. A rough, worn front binder leather will sometimes trap and hold the severed strand of filling, and thereby prevent the fall of the outgoing bobbin. Check the slide on the picker stick guide where the rings of the outgoing bobbin contacts it, and if worn sufficiently to retard the fall of the bobbin, remove and have it welded and ground to its original shape. Make sure that the bobbin can is in good condition, and sitting in its proper place to receive the bobbin.

The weaver should not flag the loom and stop if off when it is dropping bobbins on the floor, but should have a special way of flagging the fixer for this, and let the loom continue to run until the fixer can get around to it.

Things the Loom Fixer Should Check When Making Daily Inspections

The loom fixer should train himself to make a systematic check of certain things and not just pass by the looms, glancing in a haphazard way with nothing definite on his mind and overlooking many vital things needing attention. Of course this inspection should be made without stopping off the loom, unless something is found needing attention. The fixer should make his inspection with the following things definitely in mind, and by doing so he will have covered the loom sufficiently to notice anything out of order, not listed here.

The fixer should check the following:

Tension on the cloth.
Inspect the cloth from selvage to selvage.
The temples.
The temple thread cutters.
The shuttle boxing, in both boxes.
Shuttle feeler thread cutters.
Bunches on ejected bobbins in bobbin can.
The parallels.
The harness.

The tension on the cloth can be determined readily by placing the hand on the cloth. At the same time the cloth can be looked over from selvage to selvage. Should he find the loom running with warp threads broken, he should determine why the drop wire containing the broken thread has not dropped down and stopped the loom off. Should he find open places or streaks in the cloth caused by open or bent reed dents, he should stop the loom off and repair the reed. If he finds the cloth uneven or wavy he should determine the cause and correct it. He should determine if the temples are setting too high or too low, and also see that they are correctly placed in relation to the selvage of the cloth. He should determine if the temple thread cutters are in place and working properly. He should look at both shuttle boxes while the loom is running and make sure that the shuttle is boxing properly. He should look at the shuttle feeler thread cutting arrangement. If the thread cutter is holding a severed strand of filling it is good indication that the cutter is working properly, but unless the severed strand of filling is present, the fixer should stop the loom and check over the thread cutting mechanism. The fixer should inspect the ejected bobbins in the bobbin can, and determine if they are being ejected with the proper amount of yarn on them. If the bobbins are running too near empty, or some of them entirely empty, the fixer should determine if the filling feeler is functioning properly. If he finds the filling feeler is working correctly he should then check the transfer mechanism. If this is found to be working right he should determine if the bunch is being put on the bobbin properly in the spinning room, and if not, he should report it to the man in charge. The parallels should be looked over to determine if the heel bolt is tight and other parts in good working order. He should look at the warp yarn at each selvage to determine if the harness is shedding properly and correctly set in relation to the race plate.

If the loom fixer will go over the looms when the warp is out, and check and correct the things already outlined in a previous chapter, and inspect the looms and make the needed adjustments daily, as outlined above, he will very soon become convinced that it is the easiest, most efficient and by far the most economical way to run a section of looms.

Button Hole Selvages

Button hole selvage is caused by excessive tension being exerted on the strand of filling at intervals, while the shuttle is traveling across the lay. First check the harness and make sure that they are properly set and correctly timed. Should one or more of the harness be pulling too low, it will have a tendency to slacken the warp yarn at the selvage, and cause the warp yarn to be pulled in more easily by the pull of the filling. Next examine the shuttle and make sure that it is in good condition, the shuttle spring and the shuttle eye tight, and no rough or splintered places on it. Make sure that the bristles are in good condition and properly placed, as excessive tension on the filling caused by an improperly placed bristle will cause button hole selvage. Also no bristle in the shuttle will cause trouble of this nature by allowing the shuttle to become unthreaded or partly unthreaded while the loom is running. The bristle near this shuttle eye, shown in a previous chapter, will prevent the shuttle eye becoming unthreaded while loom is running. I have never seen a shuttle eye that would not unthread while the loom is running, unless the bristles are placed to prevent it. Make sure that the bobbin in the shuttle is setting or pointing straight. See that the bunches are put on the bobbin properly. If the bunches are too large the filling will pile off and get behind the bunch just before the transfer takes place, and this will put excessive tension on the filling. Make sure that the temples are properly adjusted, clearing the race plate correctly and setting the proper distance from the fel of the cloth. Excessive twist in the filling yarn will cause button hole selvage, because the filling will kink in or near the shuttle eye whenever the shuttle stops in the box, and this kink will cause a momentary tug or pull on the filling on the next pick.

Ropey Filling

Some ropey filling in cloth is caused by improperly spun yarn. The yarn should be reasonably tight on the bobbin and built properly by the traverse on the spinning frame. For best results in weaving, the spinning frame traverse should travel down fast and up slow. The loom fixer can easily determine how the yarn is layed on by pulling off a small amount of it by hand. If the filling is bad he should report it to the man in charge. However, my experience has been that most of the ropey filling in cloth is caused by the loom being out of order. Check the following to overcome ropey filling caused by the loom. See that the loom is picking on time and that the stroke on the picker sticks is properly adjusted. *Make sure that the shuttle is boxing properly in both shuttle boxes.* Boxing the shuttle has been fully covered in a previous chapter. Check the bristles in the shuttle. A bristle placed too low, exerting too much tension on the filling, will cause it to rope off occasionally. Make sure that the bobbin is tight and setting straight in the shuttle. See that there is not excessive tension on the filling feeler plunger spring. Excessive tension on the plunger spring will cause the filling to rope off after the yarn has run off of the bobbin down to the point where the plunger contacts the tapering part of the yarn on bobbin. This will be much worse on coarse yarn than on the finer numbers. Again I want to emphasize the importance of running the loom with a minimum amount of power on the pick, and boxing the shuttle correctly. This is vitally important for several good substantial reasons, and especially so to avoid ropey filling.

(*Continued on Page 57*)

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Recent Advances in Textile Testing Methods*

By E. R. Schwarz, F. T. I.**

THE year 1941 ushers in a new decade in textile testing progress and allows retrospect over the past ten years in the development of textile research. The most important single technique adopted and adapted by the textile technologist who kept abreast of the times was the application of the statistical method to the analysis and interpretation of data resulting from his work. Sampling—especially in the case of the measurement of fibre properties—is being done more intelligently. The importance of the standard deviation and the standard error in the treatment of observations and of the means of sets of data is being increasingly realized. The powerful methods of studying variations within and between groups of data embodied in the analysis of variance is coming into use. The intelligent use of correlation methods both for simple correlation and for rank correlation; together with a better understanding of precision of measurement, has improved the handling and understanding of research results.

The score of textile testing has broadened notably in the last few years. Although for centuries, textile materials have played a most important part in human living because of their amazing strength and durability combined with flexibility and lightness, it has remained for textile research only during the most recent years of the present century to develop means for evaluating those properties. Further the factor of flexibility has been investigated thoroughly only during the last decade. The work of Peirce of the British Textile Institute is outstanding in this connection and forms the groundwork upon which was based the research just concluded at the Massachusetts Institute of Technoogy. This dealt with the evaluation of textile finishing treatments and was a program carried out through the M. I. T. Division of Industrial Co-operation under the direction of the writer acting for a sub-committee of the American Association of Textile Chemists and Colorists' Research Committee. This investigation has related the methods of Peirce and other means of test on a carefully-chosen range of samples and, in addition, had produced a new instrument—the Drapeometer—which measures the distortion produced in a horizontal plane by the weight of the fabric itself acting in a vertical direction against an initial distortion of one end of the specimen. The resulting data takes the form of a Drapeograph which tells the story of the draping qualities of the material much as a steam engine indicator card will do for the operation of the engine. As the indicator card gives information as to the diagnosis of faulty operation, so this Drapeograph will indicate the presence of strain unequally distributed in the fabric and also will indicate something of the stiffness or conversely the flexibility of the material at the same time.

Parallel work is under way at the National Bureau of Standards under the direction of the subcommittee of Committee D-13 of the American Society for Testing Materials. Here methods for measuring the resistance of a fabric to wrinkling have been developed and studies are also being made of the effects of surface contour and surface friction on the evaluation of the finishing treatment by means of sense of touch.

Some years ago Schiefer at the Bureau of Standards developed a Flexometer for evaluating the force necessary to bend fabric samples through a fixed angle when the weight of the samples has eliminated by supporting them on vanes. Other later investigators developed methods for measuring the force needed to distort loops of yarn, fibre and fabric.

Of interest also in this connection is the increasing attention which is being paid by the textile technologist to the measurement of the resilience of textile materials. This is of considerable importance in the development of satisfactory pile fabrics—particularly where synthetic

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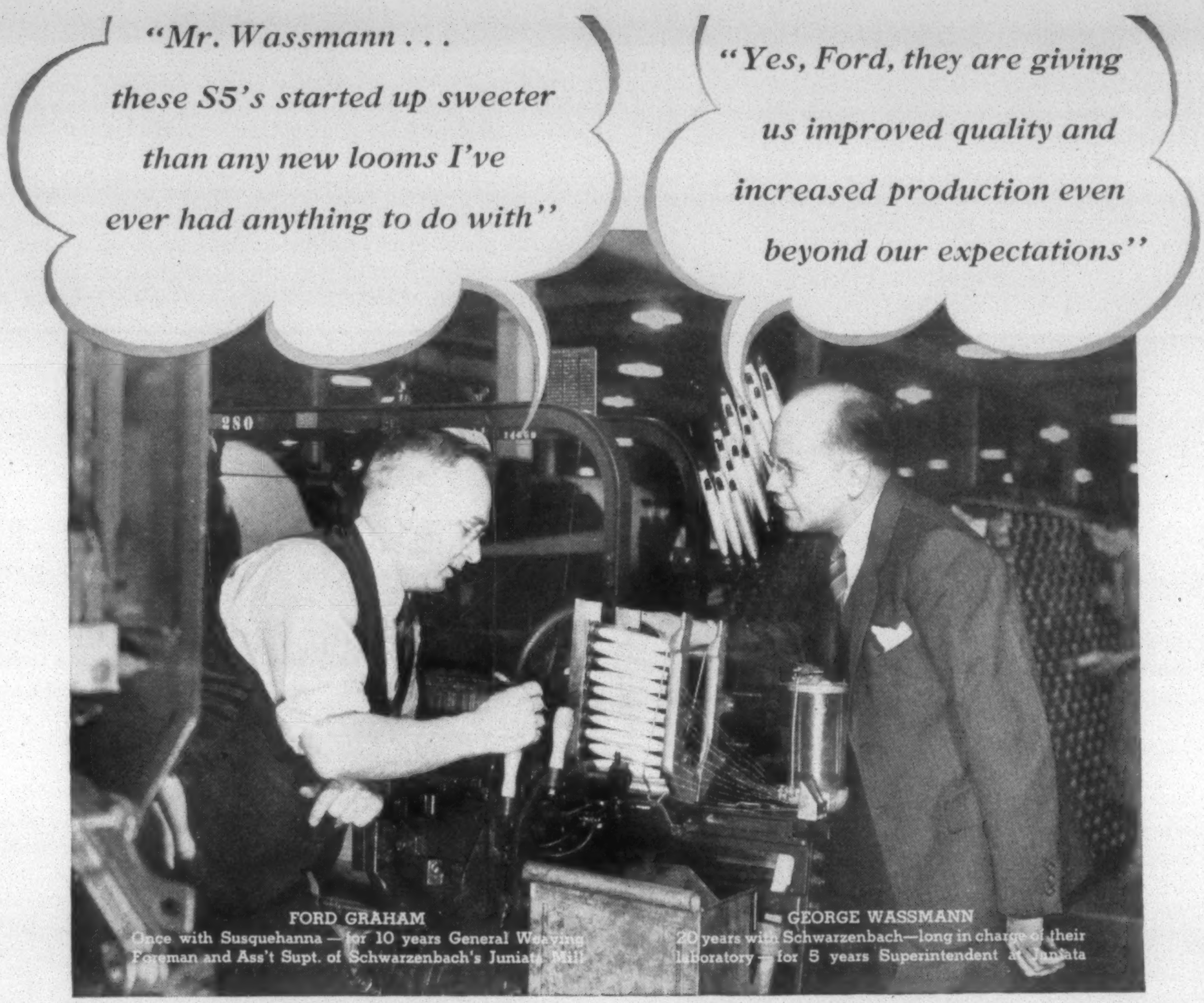
*Abstract of an address presented at a meeting of the American Association of Textile Technologists, Hotel Prince George, New York City, February 6, 1941.

**Professor of Textile Technology, in charge of Textile Division, Massachusetts Institute of Technology, Cambridge, Mass.


"Mr. Wassmann . . . these S5's started up sweeter than any new looms I've ever had anything to do with"
"Yes, Ford, they are giving us improved quality and increased production even beyond our expectations"
280

FORD GRAHAM
Once with Susquehanna — for 10 years General Weaving Foreman and Ass't Supt. of Schwarzenbach's Juniata Mill

GEORGE WASSMANN
20 years with Schwarzenbach—long in charge of their laboratory — for 5 years Superintendent at Juniata

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Schwarzenbach Huber bought their first Crompton looms in 1895 and since then—in forty-five years—have purchased over 4500 C&K looms. And now the S5 is definitely a part of their plans for the future.

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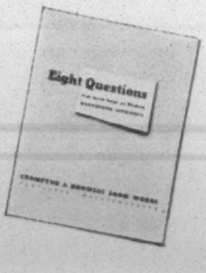

Crompton & Knowles Loom Works

WORCESTER, MASSACHUSETTS

fibres are employed in their construction. It is also of great importance in the development of improved types of blankets and in connection with the National Defense Program for the development of satisfactory materials for use as gaskets and washers in ammunition. Here the textile material must withstand very considerable compressive forces and must not be deformed beyond certain limits and must in addition have the ability to recover to at least a desired minimum degree.

Permeability To Liquids

Further physical properties of fabrics are being investigated, particularly the permeability of materials to fluids. Here the permeability to air or other gases and to liquids such as water is of importance. The term porosity has been wrongly used in this connection for some little time. Porosity and permeability are connected but only by reason of the fact that in order to be permeable a material must first be porous. It does not follow, however, that all porous materials are readily permeable. For instance a brick is porous and will pick up moisture if immersed in water or if subjected to rain. It is not permeable to air to any reasonably measurable degree. It will be seen, therefore, that means must still be worked out for measuring the amount of air which is enclosed in the fabric and which thus becomes a measure of its porosity. Means are now available for measuring the permeability or the ease of passage of a gas from one side of the fabric to the other. Such instruments have been developed by the National Bureau of Standards and by the Massachusetts Institute of Technology Textile Laboratories and have a range of capacity of from .01 cubic feet per minute to 4 cubic feet per minute. This will include fabrics ranging from surgical gauze to heavy felts.

The newest device for the measurement of permeability operates on a null principle and is quite independent of humidity or temperature effects. This has been developed by the L. E. Gurley Co. and consists fundamentally of two chambers one of which maintains a constant relative pressure on one side of a variometer while the other admits the air to one surface of the sample under controlled conditions of flow. When the instrument is brought to balance as shown on the variometer the reading of the orifice dial controlling the admission of air to the sample indicates at once the volume of air per unit time which is flowing through the material. Provision is made to clamp fabrics of variable thickness with uniform pressure and also to guard against any leakage through the sample in any direction other than that measured.

Closely allied to measurements of permeability to air are those affording information as to permeability to water or other liquids. So-called water resistance and water repellent tests are in this category and methods are under investigation by various workers at the moment to develop inexpensive and satisfactory apparatus for the purpose. These investigations are being conducted under the correlated direction of committees from the American Association of Textile Chemists and Colorists and the American Society for Testing Materials. They include hydrostatic pressure tests, spray tests and absorption tests.

Heat Transmission

There is also to be considered in connection with permeability testing both as to air and water, the permeability of a fabric to heat or its heat transmission properties. Apparatus for this purpose had hitherto been cumbersome, expensive and slow in operation. The textile laboratories of the Massachusetts Institute of Technology have developed under the direction of the author a simplified apparatus for measuring the reluctance to heat flow, the conductance and also the coefficient of thermal conductivity of fabrics. The tests are complete in twelve minutes each and the necessary computations have been reduced to a very simple single operation.

Other investigators are also working in this field and interesting contributions in this direction have come from the United States Testing Co., R. H. Macy Bureau of Standards, and further work has been done to the National Bureau of Standards.

The past ten years have also been noteworthy in that it was in this period that a program of co-operative research was initiated by the United States Institute of Textile Research. Part of this was conducted by this organization entirely, while a portion of it was financed in part by the Textile Foundation. Projects which were completed involved the determination of the important factors involved in the sizing of continuous filament rayon for weaving and which was carried out at M. I. T. through the Division of Industrial Co-operation and a study of the fundamentals of the drying of textiles which was undertaken at the National Bureau of Standards. The American Society for Testing Materials is conducting a similar co-operative research on the evaluation of textile finishes (referred to in the foregoing) and the American Association of Textile Chemists and Colorists has conducted work under a slightly different financial arrangement on wool carbonizing and various other features of the chemical processing of textiles.

Developments in the microscopy of textiles have come rapidly during the past ten years and this subject has been reviewed frequently in the literature. The interesting fact is that more and more frequently, optical equipment is being called upon by the chemist and the physicist as an aid in his investigation. It is noteworthy that the fundamental work undertaken at Boyce Thompson Institute for Plant Research on the structure of cotton fibre was in large part microscopical and that the work which has just been completed at the National Bureau of Standards for the Textile Foundation on the structure of cotton fibre and the work now underway on the structure of wool is also in large measure microscopical. These investigations follow work originally undertaken through the auspices of the Textile Foundation at the Massachusetts Institute of Technology by Messrs. Prindle, Osborne, Hotte and Sieminski. The work continues in a more fundamental fashion and will be briefly discussed in a later section of this paper. Developments in the measure of color and in the measurement of luster have followed in parallel with this work and the contributions in this field from various investigators have been of considerable importance. With the advent of the spectrophotometric methods of color analysis as developed by A. C. Hardy at M. I. T. not only are instruments available to the in-

(*Continued on Page 48*)

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THIS IS NO. 25 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

SPECIFICATIONS FOR BOBBIN AND PIN COP ATTACHMENTS (No. 90 Winder)

The information on this page is provided for convenience of

(1) *mills desiring to change from one length of bobbin to another.*

The chart shows the maximum length of bobbin (A) and maximum traverse of yarn on the bobbin (B) that can be obtained with each of the winding attachments.

(2) *mills desiring maximum amount of yarn on the bobbin.*

The dimension shown from the spindle head to the start of winding on the bobbin is standard. If a collar or washer is placed between the spindle head and the base of the bobbin to get maximum yarn traverse, the winding point must be measured from the spindle head — not from the bobbin base. The winding point is not changed by adjusting the length of stroke when changing from one hole to another on the Traverse Bar Lever.

(3) *mills selecting parts for their machines.*

The correct number of any part can be quickly determined by taking the measurement and then referring to the chart.

· Mills using a long bobbin or winding with heavy tension can support the tip end of the bobbin with the Bobbin Support Attachment. The Bobbin Support Bracket (Fig. 2) is available for all attachments and is the same for Pin Cop or Bobbin Attachment. No through spindle is used, as the bobbin is driven from a driver that fits a slot in the base of the bobbin.

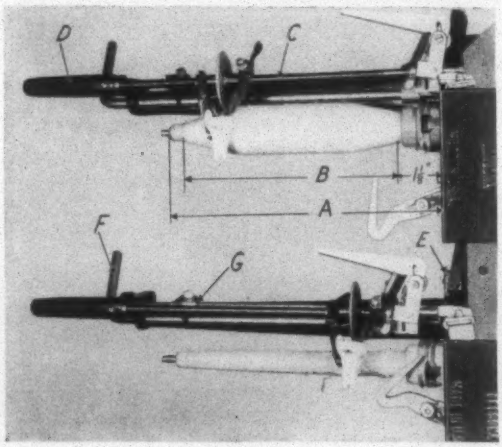

FIG. 1

Pin Cop Attachment is required for winding onto automatic loom bobbins or onto paper tubes or cops. The Traverse Bar (C) is pivoted in the Support (D) to allow the Cop Former to move the Traverse Wheel in at the start of winding. The Traverse Bar Support can be adjusted to the right or left to build parallel-sided bobbins.

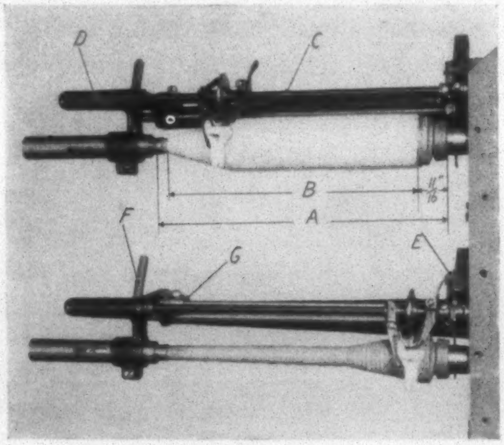

FIG. 2

Bobbin Attachment is used when winding onto cone-base bobbins. The Traverse Bar is made in one piece, and is held in the Traverse Bar Support in a fixed position. All bobbins produced with this attachment will be parallel-sided. The Traverse Bar Support (D) is part of the Bobbin Support Attachment. This can also be used with the Pin Cop Attachment.

Pin Cop Attachment	8"	9 1/2"	11 1/4"	12 1/2"
A. Bobbin Length	8"	10"	11 3/8"	12 5/8"
B. Yarn Traverse	6 7/8"	8 1/2"	10 1/4"	11 1/2"
C. Traverse Bar				
Part No.	90-2186	90-2186A	90-2186G	90-2186-12
Length	9.28"	10.91"	12 5/8"	13 13/16"
Reverse Wind	90-2186C	90-2186E		
D. Traverse Bar Support	90-60BX	(or use 90-60GX with Bobbin Support Attachment, Fig. 2.)		
E. Traverse Bar Support Bracket				
Part No.	90-871	90-871A	90-871F	90-871E
Length	10.12"	11.74"	13.50"	14.80"
F. Starting Lever	90-85	90-85A	90-85C	90-85E
G. Sizing Lever Rod	90-1148	90-1148A	90-1148E	90-1148C

Bobbin Attachment	8"	9 1/2"	11 1/4"	12 1/2"
A. Bobbin Length	8"	9 5/8"	11 3/8"	12 5/8"
B. Yarn Traverse	7 5/16"	8 15/16"	10 11/16"	11 15/16"
C. Traverse Bar				
Part No.	90-187	90-187A	90-187-16	90-187F
Length	16.12"	17.75"	19.50"	21.00"
Reverse Wind	90-187C	90-187D		
D. Traverse Bar Support	90-60X	(or use 90-60GX with Bobbin Support Attachment, Fig. 2.)		
E. Traverse Bar Support Bracket				
Part No.	90-871	90-871A	90-871F	90-871E
Length	10.12"	11.74"	13.50"	14.80"
F. Starting Lever	90-85	90-85A	90-85C	90-85E
G. Sizing Lever Rod	90-1148	90-1148A	90-1148E	90-1148C

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Cotton Mill Production Formulae

By John T. Kersey

Written largely for use by the beginner, or mill worker interested in advancement, the following production information may prove of interest to any person in the mill. Some of Mr. Kersey's methods and computations are unorthodox, and may invoke some lively discussion.

Card Production

The standard speed of a card cylinder is 165 revolutions per minute. The speed of the doffer calender rolls, and coiler is dependent on the number of teeth in the production gear.

The theoretical or 100 per cent production can be figured from either the doffer calender rolls or coiler rolls, but as there is a slight draft between the doffer and calender roll, and the calender rolls and coiler rolls, it is better to calculate it at the last rolls the sliver passes through.

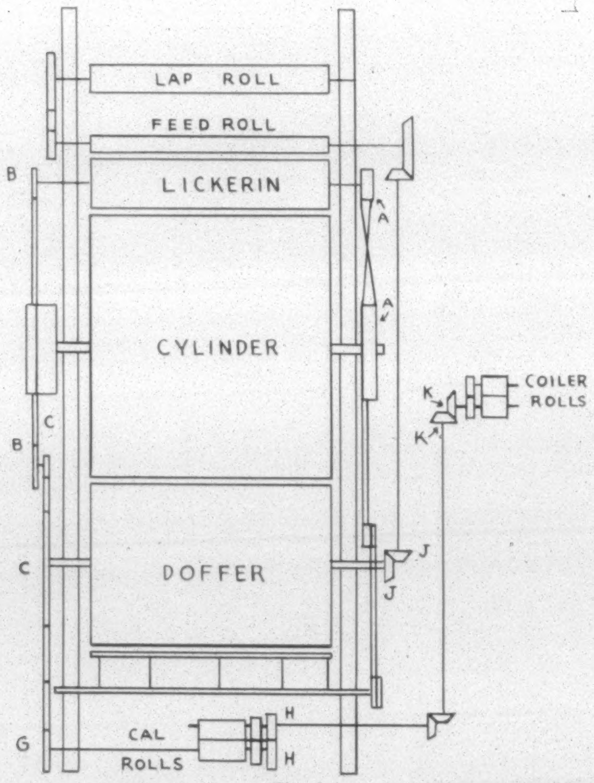

Fig. 3

Using the short formula, the production constant for a 2-inch diameter roll is 52.36×2=104.72 for a 10-hour day.

To create a constant for a day of 8 hours (104.72×8) ÷10=83.7. To figure the pounds per day per card, assuming the speed of the coiler rolls 135 r.p.m. and the weight of the card sliver 50 grains per yard, the pounds per day of 8 hours is,

$$\frac{83.7\times135\times50}{7000}=80.7$$

The loss due to cleaning, stripping and oiling has to be deducted to get the actual or net production. The usual amount allowed is 5 per cent.

Figure 3 shows the plan of a revolving flat card. The speed and production of the doffer, calender rolls and coiler rolls can be determined from the speed of the cylinder which is the most accurate way. However with the exception of the licker-in and the doffer comb the speeds of any of parts in motion can be taken with a watch and indicator or by counting the revolutions per minute in the usual way, which is accurate enough for ordinary practice or purpose. When counting the revolutions per minute of the doffer, it is customary to count the spokes in the large doffer gear that passes a certain point per minute, usually one of the fingers, and divide the total spokes that passes by the number of spokes in the gear, which will show the revolutions per minute.

It will be good practice for the student to obtain the speed of the doffer calender roll, and coiler rolls through calculations from the speed of the cylinder, and then count them as suggested, and compare one with the other which will help them to become more accurate and familiar when checking the speeds of any of the rolls.

The student should also familiarize himself with every irregularity of any import that causes any loss in production, or quality that could be avoided, and plan ways of overcoming them, bearing in mind that the more steadily the cards run the slower the doffers can run and produce better carding and sliver.

The cylinders of revolving flat cards are as a rule 50 inches in diameter, and 37, 40, and 45 inches wide. The doffers are made 26 and 27 inches in diameter, the clothing or wire adds ¾ inch to the diameter when it is applied.

To figure the production from the doffer, it is necessary to know the revolutions per minute, and the circumference in order to determine the surface inches per minute, and unless allowance is made for the drafts between the doffer and calender roll and the calender and coiler rolls the information will not be true as the sliver or web of the doffer is heavier at the doffer than it is at the coiler rolls.

If it is preferred to figure the production from the

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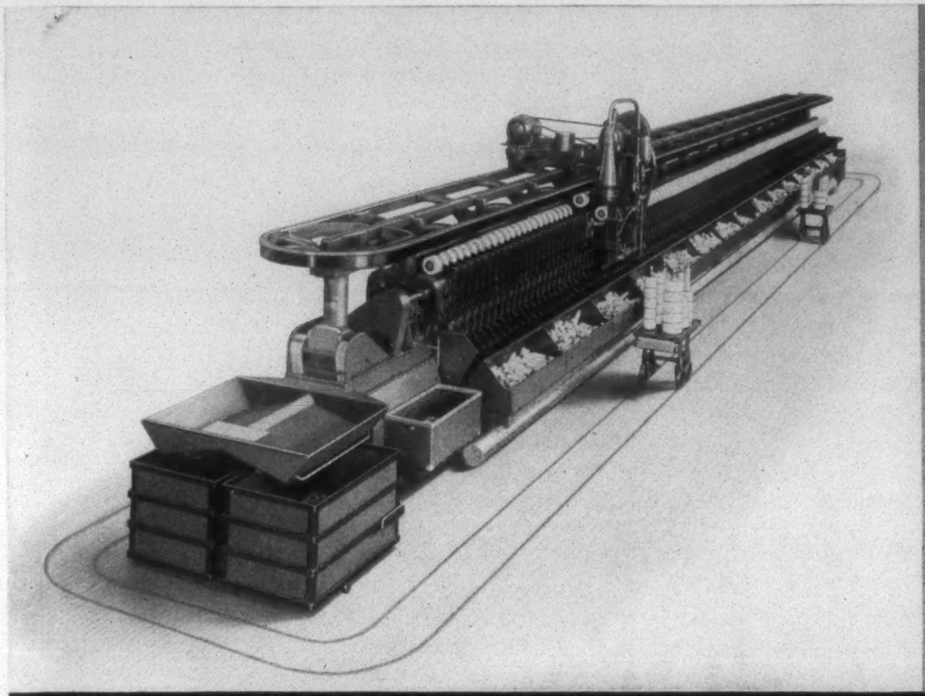

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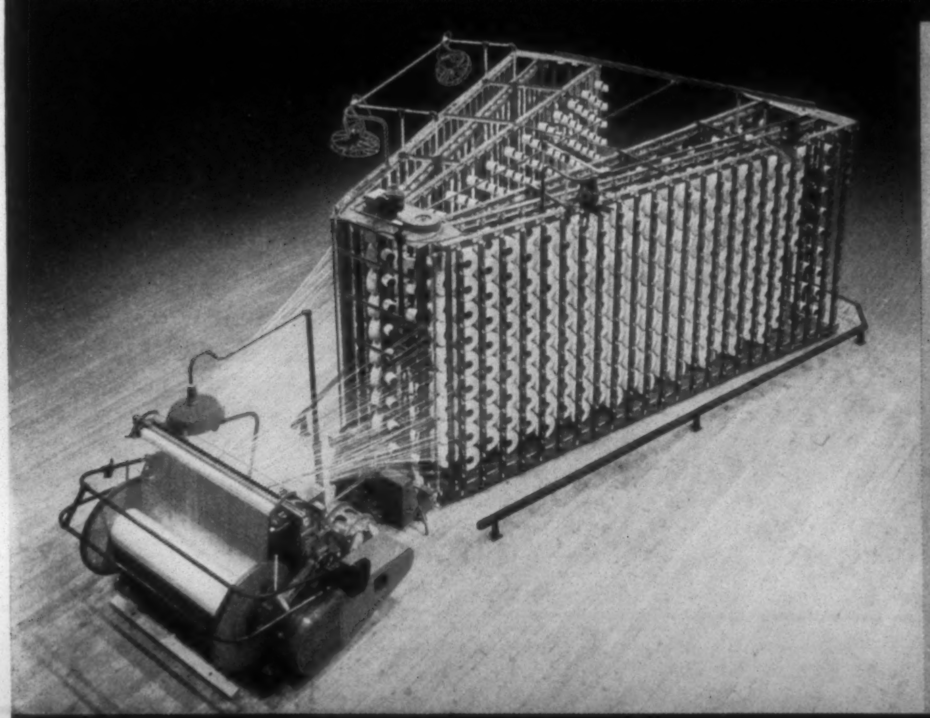

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Callie Self Memorial Baptist Church

The Callie Self Memorial Baptist Church, erected near the Matthews Cotton Mills, Greenwood, S. C., by J. C. Self as a memorial to his mother, Mrs. Callie Hollaway Self, was dedicated on February 2nd. The dedicatory sermon was delivered by Dr. George W. Truett, of Dallas, Tex., who is rated as one of the outstanding ministers of the world.

The Callie Self Memorial Baptist Church is constructed of hollow tile with red brick veneer and limestone linings and copings. The carillon tower, to the rear of the church, is 87½ feet high and holds chimes which the Netherlands Government sent to the New York World's Fair and were purchased from them by Mr. Self. It is one of the few electrically operated chimes in the Western World. The interior of the church has mahogany pews and a mulberry colored carpet.

G. S. Johnston Heads Chattanooga Yarn Men's Association

Chattanooga, Tenn.—G. S. Johnston, of Textiles, Inc., was elected president of the Chattanooga Yarn Men's Association, succeeding Dudley Bryan. Other officers named by the yarn men were William Crews, of Avondale Mills, vice-president; Jack Ulmer, of E. I. du Pont de Nemours & Co., secretary; and Spencer Sparks, of Katakura Corp., treasurer.

Plans for the annual textile golf tournament and outing were set in motion at the meeting. The last week in May was selected as the tentative time for the two-day tournament to be hed at Lookout Mountain.

Committees for the tournament are to be named at a meeting to be held in two weeks. Under the tentative plan the tournament play will be over the Lookout Mountain course while the Lookout Mountain Hotel will be headquarters for the gathering and will be the scene of the banquet.

Fulmer Bill Would Force Use of Cotton Linters in Rayon

A bill recently introduced in the House of Representatives by Congressman Hampton P. Fulmer, of South Carolina, providing for the use of cotton in conjunction with cellulose pulp, might require some important production changes in rayon manufacture should the bill pass. The bill, similar to one introduced during the last session, is at present still in the hands of the Committee on Agriculture.

The purpose of the bill, among other things, is "to provide for forest conservation of timber used in pulp; to use surplus carryover of cotton; to improve the quality of cellulose pulp; to provide a standard of cotton content in pulp."

The bill would provide for "surplus pulping cotton," the use of which would be encouraged for industries using pulp. A portion of the bill reading: "In the case of pulped surplus cotton to be supplied, the Secretary of Agriculture is authorized and directed to contract with pulp producers for the conversion of 'pulping surplus cotton' in such localities either domestic or foreign . . ."

At the request of the processor, the Secretary of Agriculture may supply chopped raw or "pulping surplus cotton" for introduction and mixture in the processing of pulp products at an established scale of prices. Apparently to encourage this use provision is made for a processing tax upon the "first domestic processing of cellulose pulp, whether domestic or imported."

With the exception of one producer of viscose process rayon, all the others are understood to employ wood pulp solely.

The idea which has been advanced of the desirability of employing all cotton for pulp instead of wood for rayon is said to be fraught with difficulties because so far it has been determined that there is considerable dyeing trouble with a rayon made of all cotton or where there are high percentages of cotton.

It is not known whether the bill will ever emerge from committee but, if it does, it promises to be an important one for the rayon yarn producing industry. The bill is designated as H. R. 99 and was introduced January 3, 1941, by Congressman Fulmer.

Georgia Tech Textile Unit Adds Courses On Testing and Production

Atanta, Ga.—Two new courses, one in textile testing and another in textile production, are being offered by the Textile Department of the George School of Technology, under the authorization of the National Defense Program.

The textile testing course, which started recently and is scheduled to run for 12 weeks, is held three days each week in the afternoon and evening.

The course on textile production, which has started and will continue for 16 weeks, includes yarn manufacture, weaving, design and analysis, dyeing and finishing.

The work in each course is of college grade and the usual college entrance requirements are needed.

Tubize Adding Pulverized Coal System

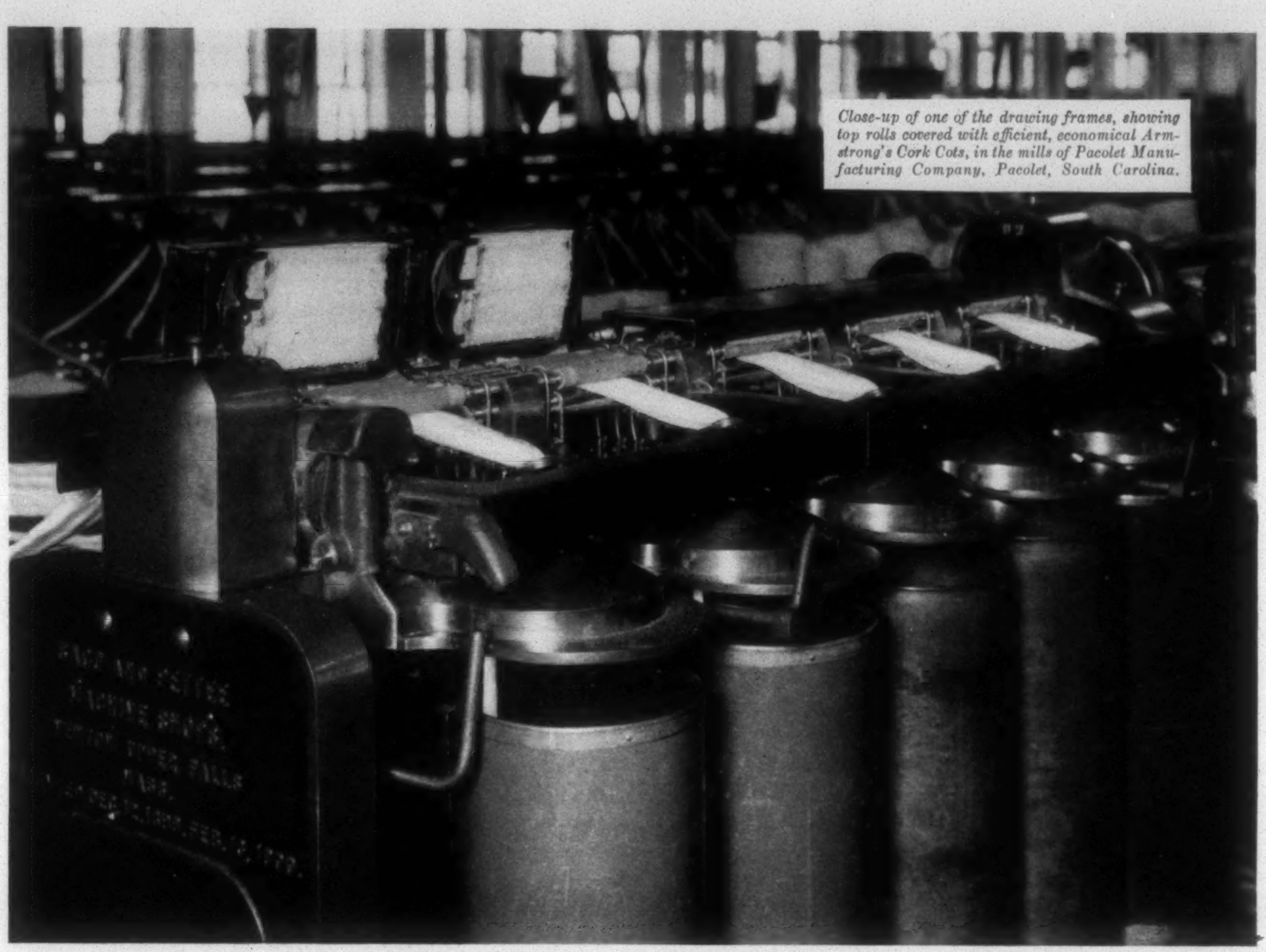
Tubize Chatillon Corp. will add one large boiler with pulverized coal burning system at its Rome, Ga., plant.

The boiler will be supplied by Babcock & Wilcox Co., the engineers for the project being Lockwood Greene Engineers, Inc.

Hodges Made Exclusive Agents for Everwear Temple Rolls

M. Bradford Hodges, of Atlanta, Ga., and Jesse Hodges, of Charlotte, N. C., recently were appointed exclusive Southern agents for the Everwear Temple Roll, a patented product owned and produced by Roger W. Cutler.

Bradford and Jesse Hodges have been calling on Southern mills for many years and are well known and highly regarded throughout the territory.



Close-up of one of the drawing frames, showing top rolls covered with efficient, economical Armstrong's Cork Cots, in the mills of Pacolet Manufacturing Company, Pacolet, South Carolina.

Take a tip from Pacolet Mills on how to reduce

DRAWING SLIVER VARIATION

LIKE hundreds of other mills, Pacolet Manufacturing Company have found that Armstrong's Cork Cots save them worry, help them turn out better products. Since equipping their drawing frames with these *modern* roll coverings, they have substantially reduced the variation in their drawing sliver and have also improved the running of their work all the way through the card and spinning rooms.

The higher coefficient of friction of cork assures more strength and uniformity of yarn—less eyebrowing. These highly efficient cots also minimize clearer waste, diminish the frequency of top roll laps, and reduce end breakage.

It's simple and inexpensive to change over to Armstrong's Cork Cots. Their initial cost is on a par with that of other roll coverings, and you start saving immediately with their quicker, cheaper assembly. Furthermore, they give you *extra-long service;* for not only are they more durable, but you can rebuff them—three or four times—at a unit cost of about ½¢! An Armstrong representative will be glad to show you production figures and savings of mills spinning your range of numbers on cork. Armstrong Cork Company, Industrial Division, Textile Products Section, 921 Arch Street, Lancaster, Pennsylvania.

ARMSTRONG'S *Extra Cushion* **SEAMLESS CORK COTS**

CORK PRODUCTS SINCE 1860

The use of cotton towels instead of calendars, rulers and gadgets was originated by the Victor Fertilizer Co., of Chester, S. C. The above picture shows a farmer's daughter using one of the towels and it does not require much of an argument to prove that it is an effective form of advertising.

Anderson Cotton Mills Sues Royal Mfg. Co. for $70,000

Charlotte, N. C.—Anderson Cotton Mills vs. Royal Mfg. Co., Judge Sam J. Ervin, Jr., in Mecklenburg Superior Court took under advisement the motion of defense counsel for appointment of a referee in the action of Anderson Cotton Mills, of Anderson, S. C., against Royal Mfg. Co. and others.

Damages of approximately $70,000 are asked in the case.

Plaintiff seeks an award of about $70,000 as result of allegedly fraudulent operations of defendants while they were acting as agents for plaintiff's cotton waste business during the period from 1933 to 1937. The actual loss is alleged to be $45,062 and plaintiff is asking an additional $25,000 as punitive damages.

Cotton Postal Twine is Proposed in Bill

Washington, D. C.—The House Appropriations Committee recommended recently the re-enactment of a law requiring Postoffice Department to use cotton for at least 25 per cent of its mail-binder twine.

Over the protests of a jute industry representative, the committee wrote the provision into the Treasury-Postoffice appropriation bill for the year beginning July 1st.

Ruffin, Harris Elected At Erwin Cotton Mills

K. P. Lewis, president of the Erwin Cotton Mills Co., stated that at the annual meeting of the stockholders held at the office of the company recently, the following officers were elected: K. P. Lewis, president; John Sprunt Hill, first vice-president; J. C. Thorne, second vice-president; Wm. H. Ruffin, secretary and treasurer; and Carl R. Harris, assistant secretary and treasurer.

Wm. H. Ruffin, promoted from secretary and assistant treasurer to secretary and treasurer, has served in the former capacity since 1932, is first vice-president of the North Carolina Cotton Manufacturers' Association, widely known through the textile world, and is an active and public-spirited citizen of Durham.

Carl R. Harris, elected for the first time as an officer of the company, entered the Erwin Mills' employ in 1928. He has been serving in the capacity of manufacturing engineer and as a director. He graduated in the textile school of North Carolina State College and had extensive cotton mill experience before joining the Erwin Mills organization. He is a past president of the Southern Textile Association and stands very high in reputation in the industry.

The officers reported full operations for the past year with good demand for the company's products.

Piedmont Chemists Meet At Greensboro

Greensboro, N. C.—With an address compounded of observations on textile manufacturing in South American lands and sly humor at the expense of some native customs, Hugh M. Comer, executive vice-president of the Avondale Mills, delighted 250 persons attending the banquet at the recent winter meeting of the Piedmont Section, American Association of Textile Chemists and Colorists.

The golf match, over the Valley Brook course at Sedgefield, attracted 28 players. Erwin Laxton, of Arnold-Hoffman Co., Charlotte, won the low gross with a sparkling 34-26—70, par for the course. A tie for the blind bogey honors went to Graham McNair, of F. H. Ross Co., Charlotte, with a 92, 18 handicap, and Marvin Warhurst, of Renfrew Hosiery Mills, Mt. Airy, N. C., with a 104, and a 34 handicap.

The technical session, held during the afternoon, was unusually well attended, L. M. Boyd, Salisbury, sectional chairman, presiding. Paul Booher, of the Owens-Corning Fiberglass Corp., Toledo, O., assured his hearers that glass fibers will not replace cotton and wool in fabrics where elasticity is a desirable feature.

He dealt mainly with the use of the fiber as an insulator and in such fabrics as are used for draperies and ties. George Erlaub, of Throwers Research Institute, New York City, dealt with some oft-met problems of silk throwers.

Sonoco Service Awards

Hartsville, S. C.—The Sonoco Products Co. presented to 552 of its 1,200 operatives service awards for continuous service with the company on February 1st, in the Hartsville Auditorium. Charles H. Campbell, president of the Hartsville Chamber of Commerce, presided.

Textile Fiber Consumption in U. S. Nears 5 Billion Pound Mark in 1940

United States consumption of the five major textile fibers (cotton, rayon, wool, silk, and linen) aggregated 4,916,300,000 pounds in 1940, just within striking distance of the 5-billion pound mark, according to figures compiled by the *Rayon Organon*, published by the Textile Economics Bureau. This figure established a new high mark in the history of the textile industry and represented a gain of 7½ per cent compared with consumption of 4,557,500,000 pounds reported consumed in 1939, the previous record year.

Consumption of cotton in this country equaled more than 80 per cent of the total and established a new high annual record. The use of rayon was greater than the consumption of wool by approximately 76,000,000 pounds; consumption of the former also established a new high record, continuing the progress this product has recorded since first produced in the United States 30 years ago. Consumption of wool increased moderately over 1939, but the use of linen and silk declined, the latter to the smallest total in 20 years.

Evidence of the growing importance of rayon in the American textile industry is illustrated by the fact that, for every pound of rayon consumed in 1940, there were consumed 8 pounds of cotton, 5/6 of a pound of wool, 1/14 of a pound of silk, and 1/28 of a pound of linen.

Cotton consumption in 1940 totaled 3,964,400,000 pounds, a gain of 8 per cent compared with the previous record of 3,657,100,000 pounds reported for 1937. In 1939 consumption totaled 3,629,700,000 pounds. The increased use last year reflects general business and industrial activity, although the defense program and other Government activities were contributing factors.

Since rayon was first produced in the United States, the consumption trend has been upward. The year 1940 proved no exception and rayon consumption (yarn plus stagle fiber) reached a record high of 487,500,000 pounds, exceeding the previous high in 1939 by 6 per cent. This record was made possible by the larger demand for civilian purposes, for, unlike cotton and wool, rayon textiles were not purchased by the Government in quantity.

Silk consumption continued to follow the downward trend of recent years, the 1940 figure of 35,800,000 pounds being the smallest in 20 years. The 1940 estimated consumption of linen at 17,500,000 pounds was 31 per cent below the 1939 total due principally to the curtailment of imports.

Wool consumption (scoured basis) amounted to 411,100,000 pounds in 1940, a gain of 4 per cent compared with 1939. Wool, to even a greater degree than cotton, owes its excellent 1940 performance to Government purchases of wool goods for use by the nation's armed forces.

Prominent Speakers At N. C. State College

Recently prominent men in the textile industry have addressed students of N. C. State College Textile School on various subjects. The first speaker was P. J. Wood, former president of the American Association of Chemists and Colorists, who spoke on the subject of penetrants, water soluble resins and textile finishes. He was followed by Sydney Edelstein, former director of research for the Association, whose subject was mercerizing of yarns and fabrics.

Norman Sixt, chief chemist, and C. Wheeler, salesman of the Carolina Aniline & Extract Co., gave talks on the soaping of silk and rayon.

Another speaker was Henry Latham, of the class of 1936, who gave a very interesting talk on compounds used in textile finishing.

Plans have been made to have other prominent speakers address the students in other phases of the textile industry.

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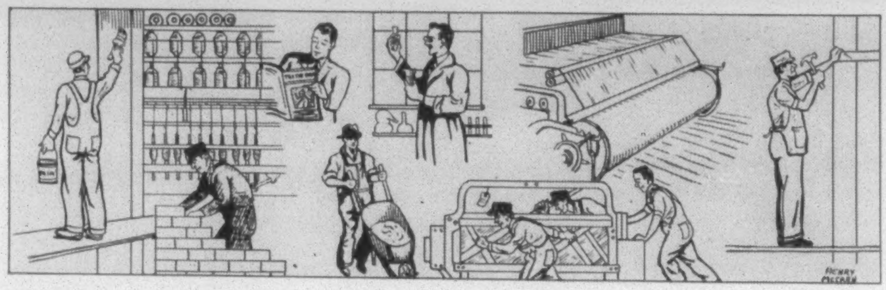
Mill News



ASHEVILLE, N. C.—The Biltmore Spinning Co. will have 720 mule spindles and 76 twister spindles. They will manufacture woolen yarns.

NEWRY, S. C.—The Courtenay Mfg. Co. has adapted 100 looms to the manufacture of rayon fabrics and plans to place 300 looms, half the capacity, on rayon eventually. The adaption began in December and has proceeded without disrupting routine operations.

LINCOLNTON, N. C.—Installation of machinery is progressing at Southern Mills, Inc., which is housed in the building formerly occupied by the Excell Mills. A number of cards are already in operation, and other machinery is being installed at present.

WILSON, N. C.—The plush mill here, which is beginning operations in the building formerly occupied by the Wilson Mfg. Co., full fashioned hosiery manufacturers, is operated by Sidney Blumenthal & Co., of New York. Details of machinery to be installed finally are not available.

JOHNSON CITY, TENN.—Construction of an addition to provide an estimated 10,000 extra square feet of floor space at Gloria Rayon Mill, a unit of Burlington Mills Corp., will begin immediately, a plant spokesman announces.

The addition will include offices, dressing rooms, storage space and space for rearranging machinery and is expected to be completed early in March.

MARSHVILLE, N. C.—Purchase of the Marshville Cotton Mill from Walter Lambeth, Charlotte business man, by the Carolina Asbestos Co., of Davidson, was announced recently by C. H. Carlough, president, as part of a $100,000 production expansion program.

The plant will be renovated and equipment installed for the manufacture of asbestos products for general business National Defense, Mr. Carlough said.

He did not disclose the purchase price.

Some contemplated expansion at the Davidson plant will increase production by about 50 per cent.

The Marshville mill has not been operated in recent years.

SALISBURY, N. C.—At a recent meeting of the stockholders of Klumac Cotton Mills, it was voted to change the name of the mills to Barbara Mills, Inc., and the goods are to be sold under the copyrighted name of Barbara Fabrics. The mill is now making a higher grade of bedspreads than formerly, together with a line of damasks to be used by the navy and a new line of panel tickings.

Officers elected at the meeting were W. P. Hazlewood, president and treasurer; Arthur B. Hestwood, Jr., vice-president; Homer V. Weaver, secretary and assistant treasurer.

COTTONDALE, ALA.—The Tuscaloosa Mills, which have been idle for several years, have been leased and put in operation by C. E. Goodroe. They have 2,080 spindles on hosiery yarns.

MAIDEN, N. C.—The McIntyre Mills are now being operated as the D. H. Mauney & Sons Mfg. Co. D. H. Mauney, Jr., is president and W. A. Mauney is secretary and treasurer. They manufacture 16/2 to 20/2 yarns.

YORK, S. C.—The Lockmore Cotton Mill Building here, vacant for several years, together with some adjacent buildings, has been purchased by a group of York business men who are organizing a cotton mill corporation, it was announced February 13th.

The property was bought from Textiles, Inc., for $10,000.

Complete organization of the cotton mill corporation will be held in abeyance until it is determined whether the Town of York will exempt the property from taxation for five years, as can be done where the investment in a new industry is $10,000 or more.

TAYLORSVILLE, N. C.—At the Irene Cotton Mills, formerly Carter Mills No. 2, much new equipment is being added. A number of spinning frames have been added, 5,000 twister spindles are being installed, and two new winders have been put in. The office is being renovated, and a building that formerly was used as a warehouse is being equipped to be operated as part of the mill, to house the twisting.

This mill is a subsidiary of the Gastonia Combed Yarn Corp., with Robert Goldberg as president; G. A. Cooper, vice-president; and C. C. Armstrong, secretary and treasurer. A. A. Oliver is superintendent.

ROCK HILL, S. C.—The following contracts have been let for extension to the boiler house and installation of one 150,000-pound per hour pulverized coal fire steam generating unit, at the Rock Hill Printing & Finishing Co., Rock Hill, S. C., to Lockwood Greene Engineers, Inc., New York; Fiske-Carter Construction Co., Spartanburg, S. C.; Combustion Engineering Co., Inc., New York; Babcock & Wilcox Co., New York; Elliott Co., Atlanta, Ga.; Grinnell Co., Atlanta, Ga.; Gould Pumps, Inc., Charlotte, N. C.

Hickory, N. C.—The Kenworth Knitters, Inc., have gone out of business and the machinery has been sold.

Cheraw, S. C.—The Cheraw Full Fashioned Hosiery Mill has changed ownership and the new owners plan to put it in operation at an early date.

Hickory, N. C.—The Henderson-Menzies Co. has been established at 930 Twenty-fourth St. by Sterling Menzies and C. H. Henderson. They will convert half-hose and anklets.

Hickory, N. C.—P. A. Mullins has established the Early Bird Hosiery Mill in the building near the old airport which was formerly occupied by the Preslar Hosiery Mill. He is operating 40 machines on half-hose and anklets.

Knoxville, Tenn.—Standard Knitting Mills is erecting a new building behind the plant here "to round out our plant layout," E. J. McMillan, president, said.

"We razed several small buildings and are erecting a new single unit which will permit our relocating some machinery to improve work routing," explained Mr. McMillan. Cost of the building is $25,000.

Johnson City, Tenn.—Lewis T. Harrower, manager of the Leon-Ferenbach Silk Co., announces the plant is planning an expansion of local facilities and would require 1,750 additional square feet of floor space.

Twenty new spinning units are being installed and will be in use by the latter part of the week. After the installation of new equipment, operations in the spinning annex will include certain work formerly done in the corporation's plants at Wilkes-Barre, and Parsons, Pa.

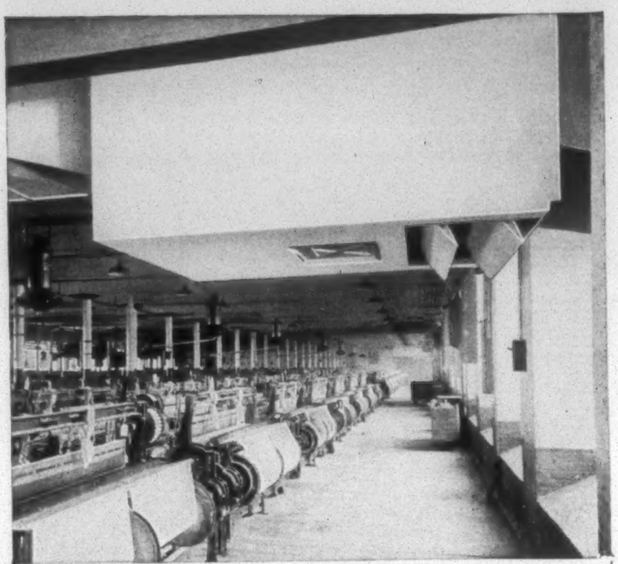
Albemarle, N. C.—Fire of an undetermined origin damaged the No. 4 mill of the Efird Mfg. Co. and yarn in process of manufacture in the plant, to the extent of $100,000 to $125,000, January 1st, according to estimates made by officials of the mill. The loss is fully covered by insurance.

The fire was discovered about 10 o'clock Saturday night in the card and comber room of the mill by a young man passing the mill. The local fire department, using the mill's fire fighting equipment in addition to their own, and assisted by a large number of volunteers, got the blaze under control in about an hour.

The sprinkler system in the mill was operating, but the blaze started behind a large column on the first floor, which the sprinkler head did not cover, and got a considerable start, soon breaking through to the second floor.

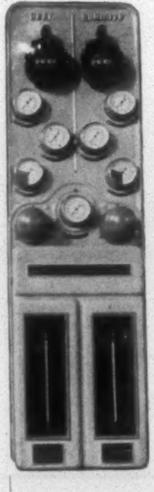
The majority of the damage done was to yarn in process of manufacture, and the damage was done largely by water from the sprinkler system and from the hose in the hands of the firemen. The fire damage was confined to the card and comber rooms, and water damage was done in the spinning and finishing departments, some damage to the spinning and warping machines. Considerable damage was also done to the building by fire.

Actual operation of the mill damaged by fire will be held up from ten days to two weeks, and repair work is already under way, according to A. K. Winget, president of the Efird Mfg. Co.



Behind the Airchanger

. . . AN IDEA



In developing the modern Airchanger idea for you, we started to answer the questions you textile men have been asking. Why up and down humidity? Why spotty conditions?

The Parks Automatic Airchanger measures incoming air. Admits only just so much. Just as much as constant humidity will permit—and NO MORE.

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It is that kind of automatic regulation that makes it an Airchanger. And only the Parks Automatic Airchanger has regulation like that.

Parks-Cramer Company

Certified Climate

Fitchburg, Mass. Boston, Mass. Charlotte, N. C.

Personal News

R. L. Hilley is now night overseer of weaving at the Greenwood Cotton Mills, Greenwood, S. C.

Allen J. Dennis is now superintendent of Mill No. 1 of the Bibb Mfg. Co., Macon, Ga.

R. B. Jones has resigned as overseer of weaving at the Chiquola Mfg. Co., Honea Path, S. C.

Grady Cox has resigned his position as overseer of carding at the Mathews Cotton Mill, Greenwood, S. C.

G. H. Lollis, for several years superintendent of the Chiquola Mfg. Co., Honea Path, S. C., has resigned that position.

W. E. Dunn has been promoted from assistant superintendent to superintendent of the Chiquola Mfg. Co., Honea Path, S. C.

Claude Holmes has been promoted from loom fixing to second hand in the weaving department at the Riverdale Mills, Enoree, S. C.

R. E. Calvert has been promoted from second hand to overseer of weaving at the Chiquola Mfg. Co., Honea Path, S. C.

J. B. Templeton, formerly of Brandon Corp., Greenville, S. C., is now overseer of carding at the Mathews Cotton Mill, Greenwood, S. C.

A. A. Oliver is now superintendent of the Irene Cotton Mill, Taylorsville, N. C., which was formerly known as Carter Mills No. 2.

L. Dunaway has been promoted from second shift to foreman of first shift slashing, Riverside Mills, Enoree, S. C.

M. B. Baldwin has resigned as overseer of spinning at the Modena Mill, Gastonia, N. C., to become overseer of spinning at the Brookside Mills, Knoxville, Tenn.

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C. L. Bryant has been promoted to second hand in carding at the Greenwood (S. C.) Cotton Mills.

W. E. Sherrill is now overseer of spinning at Laurens Cotton Mills, Laurens, S. C.

R. S. Rutherford has been promoted from night overseer to general overseer of carding at the Brookside Mills, Knoxville, Tenn.

Ora Lee Ashe has been promoted from second hand to night overseer of carding at the Brookside Mills, Knoxville, Tenn.

Harry T. Allen, formerly with Bibb Mfg. Co., has been named manager of the No. 6 plant of the Riverside & Dan River Cotton Mills, Danville, Va.

R. L. Dorsey has been promoted from loom fixing to second hand in the weaving department at the Riverdale Mills, Enoree, S. C.

B. B. Hayes, textile executive of Hudson, N. C., left recently with his wife for his first vacation trip since 1907.

B. F. Hawkins has been promoted to the position of second hand in the carding department at the Greenwood (S. C.) Cotton Mills.

T. Manley Whitener, president of the Whenball Hosiery Mills, Newton, N. C., has been re-elected president of the Hickory Country Club.

J. Craig Smith has been elected treasurer of Avondale Mills, of Alabama. Mr. Smith has been with the Avondale organization continuously since 1925.

G. C. Culberson is now employed at Ninety-Six Cotton Mills, Ninety-Six, S. C. He was formerly night overseer of weaving at Greenwood (S. C.) Cotton Mills.

M. D. Collins, formerly overseer of weaving at Bradford Mill, Prattville, Ala., is now overseer of weaving at the Plymouth Mfg. Co., McColl, S. C.

Harry Belk, formerly outside overseer at American Spinning Co., Greenville, S. C., is now in a similar position with Borden Mills, Kingsport, Tenn.

A. W. Lee has been transferred from Rockfish Mills at Hope Mills, N. C., to the company's plant at Cumberland, N. C., as overseer of night carding and spinning.

H. E. Sullivan, formerly of Borden Mills, Kingsport, Tenn., is now overseer of weaving at the Greenwood (S. C.) Cotton Mills.

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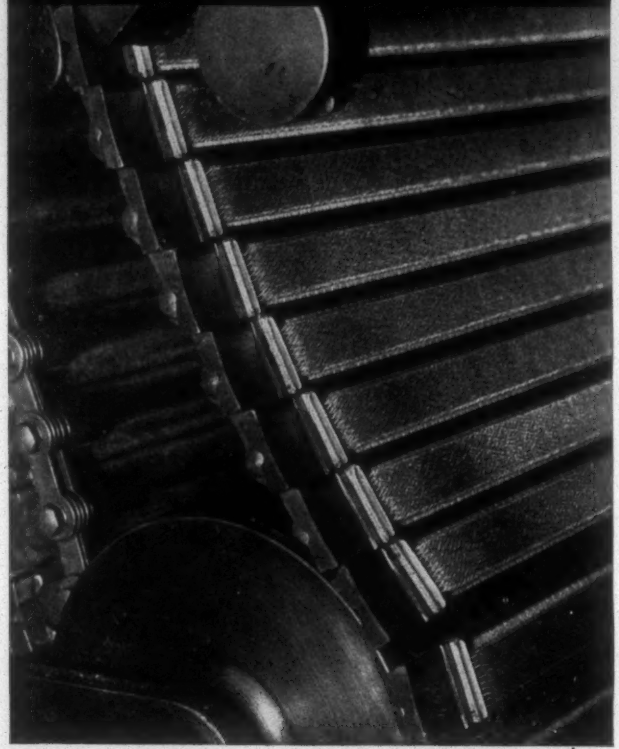

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A. L. Bannister has been promoted from overseer of weaving to assistant superintendent at the Greenwood Cotton Mills, Greenwood, S. C.

Raymond Hubbard, formerly with Faytex Mills, Fayetteville, N. C., is now master mechanic of the Rockfish Mills at Hope Mills and Cumberland, N. C.

A. W. Ricks, formerly of P. H. Hanes Knitting Co., Hanes, N. C., is now overseer of No. 4 carding, Rockfish Mills, Hope Mills, N. C.

T. S. Crow, formerly of Spartanburg, S. C., is now general overseer of carding at Bladenboro (N. C.) Cotton Mills Nos. 1 and 2.

F. D. Potter has been promoted to overseer of carding at the Merrimack Mfg. Co., Huntsville, Ala., where he has been employed for the past 21 years.

Chas. L. Tidwell, formerly with American Viscose Corp., Front Royal, Va., is now overseer of throwing, twisting and warping at Dunean Mills, Greenville, S. C.

W. P. Hamrick, general manager of the Pacific Mills, Columbia, S. C., has been elected president of the Columbia Chamber of Commerce.

H. M. Gibbons, who has been associated with the Lindale, Ga., plant of the Pepperell Co., has been transferred to the mill department of the company at 40 Worth St., New York City. He is a graduate of Georgia Tech.

M. L. Robinson, formerly overseer of carding at the Thrift Mill of the Kendall Co., Paw Creek, N. C., has been promoted to the position of overseer of carding and spinning.

A. B. Martin, formerly superintendent of the Williamston, S. C., plant of the Gossett Mills, has been appointed assistant superintendent of the Chiquola Mfg. Co., Honea Path, S. C.

A. A. Kuhn, for some time with the research department of The Kendall Co., has been named secretary and treasurer of the Fiber Mfg. Co., Newton, N. C., succeeding H. G. Rader.

P. D. Hawkins, formerly with Chadwick-Hoskins Co., Pineville, N. C., is now overseer of carding and spinning at Rockfish Mills No. 2, Hope Mills, N. C.

Grover C. Batson, supply clerk at the American Spinning Co., Greenville, S. C., has been promoted to warehouse foreman.

J. M. Phillips, formerly on the night shift, has been transferred to day second hand in weaving at the Ninety-Six Cotton Mill, Ninety-Six, S. C.

Fred Garlington has joined the sales and technical staff of the Emmons Loom Harness Co. For a number of years he had been connected with the rayon division of Pacific Mills, Lawrence, Mass.

Charles R. Long, of the Lamp Division of Westinghouse Electric & Mfg. Co., Atlanta, Ga., recently made a talk to the School of Textiles and School of Engineering at Clemson College.

I. B. Covington, superintendent and vice-president of the Wade Mfg. Co., Wadesboro, N. C., recently gave a dinner of the board of directors and foremen of the mill. Hawley Cobb acted as toastmaster.

A. H. Thomas been named assistant manager of the Mollohon Mill of the Kendall Co., Newberry, S. C. Mr. Thomas was formerly overseer of spinning at the company's mill at Paw Creek, N. C.

E. W. Seigler, formerly superintendent of the Panola and Grendel Mills at Greenwood, S. C., has been promoted to superintendent of weaving at all five of the Abney mills, two at Greenwood, Anderson Cotton Mill, Courtney Mfg. Co., Newry, and Belton Mills at Belton.

James C. Attaway Ordered To Army

James C. Attaway, who has been for the past year covering parts of South Carolina and Georgia for the Keever Starch Co., as a sales representative out of the Greenville, S. C., office, has been ordered to report for Army duty for a year, as of February 1, 1941. Mr. Attaway has the grade of Captain of Infantry, O. R. C.

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Fred W. Phillips Joins N. Y. & N. J. Lubricant

Announcement of the appointment of Fred W. Phillips, formerly with Judson Mills, Greenville, S. C., as representative, has been made by Falls L. Thomason, Southern district manager of New York & New Jersey Lubricant Co., manufacturers of Non-Fluid Oil.

Mr. Phillips' appointment is an addition to the present Southern organization, and is brought about by the company's desire to give added service, by experienced men, to their increasing number of customers in the textile field. Mr. Phillips will continue to make Greenville his home.

OBITUARY

ARTHUR E. YATES

Flintstone, Ga.—Arthur E. Yates, 66, president of the Yates Bleachery Co., died recently while en route from his Florida home to the plant here.

Mr. Yates had a long record in the textile industry. He was for some years superintendent of the Crystal Springs Bleachery at Chickamauga, Ga. In 1920 he constructed the Yates Bleachery Co. plant at Flintstone.

AXEL J. JORGENSEN

Macon, Ga.—Axel J. Jorgenson, 72, who had supervised the Bibb Mfg. Co. dye works for nearly four decades, was found dead in bed recently at his home.

Mr. Jorgensen was born in Copenhagen, Denmark, and had been associated with the Bibb since February 12, 1900.

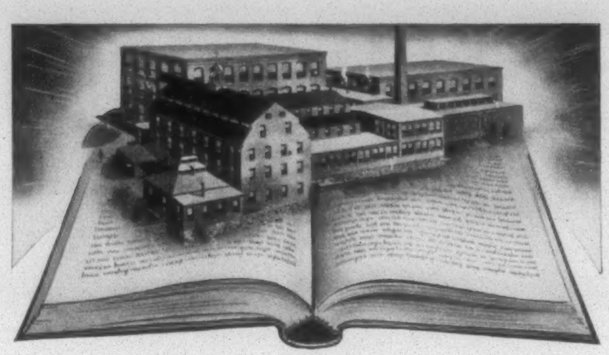
When his health gave out in 1927, he began working only a half day and turned much of his responsibility over to assistants. However, he was active superintendent up until 1938. Since that time he has been a frequent visitor to the plant and office where he had numerous friends.

WARREN C. MERRILL

Warren C. Merrill, 43, representative and director of Sykes, Inc., distributors of card clothing products of Joseph Sykes Bros., died suddenly on January 23rd at his home in Charlotte, N. C.

Mr. Merrill had been with Sykes in New England for over 16 years and had recently moved to North Carolina.

He was a long time member of the Southern New England Textile Club.



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**R. D. COLE
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Contributions on subjects pertaining to cotton, its manufacture and distribution, are requested. Contributed articles do not necessarily reflect the opinion of the publishers. Items pertaining to new mills, extensions, etc., are solicited.

All-Time High Industrial Production

According to the Federal Reserve Board industrial production reached an all-time high during December, 1940—equal to 136 per cent of the 1935-1939 average on a seasonably adjusted basis.

That level compared favorably with the previous high of 133 per cent during November, and 129 in October, and would make the 1940 average as a whole 122. By comparison, the board's index showed averages of 108 in 1939, 133 in 1937, and 110 in 1929.

The Board suggested that the industrial production index "should not be taken as a single adequate measure of the economic well being of the nation," adding:

"Especially over long periods considerable allowance needs to be made, not only for changes in the nature and quality of industrial products, but also for many other developments, including changes in other types of production, in foreign trade, in the size and composition of the population, and in the division of income."

There can be little doubt that the all-time high of 1940 will be exceeded during 1941 when almost every industry will be loaded with defense orders and operating extra shifts or overtime.

The amount of money now being put into circulation will move through the merchants to industries which are not occupied with manufacturing articles for defense and a period of high prices and prosperity is indicated.

End of States' Rights

In our issue of December, 1940, in an editorial entitled "A Worth While But Useless Effort," we predicted that the United States Supreme Court would sustain the Federal Wages and Hours Act and that has been done, in a decision rendered on February 3rd, 1941.

It is a decision which will have much effect upon the future of the United States, as it has definitely opened a path for organized minorities to enact Federal legislation and through same regulate the internal affairs of the several States.

The United States Supreme Court was packed with men willing to override the Constitution and give Congress powers which the sovereign States were unwilling to surrender.

The question of surrendering reserved powers to Congress was submitted to the States seventeen years ago, through a constitutional amendment which would permit Congress to regulate child labor, but the States refused to grant that power to Congress, and in spite of enormous pressure, only 28 States could be induced to ratify.

Framers of the Constitution contended that Congress was to be only the servant of the States and would have only such powers as were granted to it by them.

North Carolina and other States were unwilling to take any such chance and refused to ratify the Constitution until amendments known as the "Bill of Rights" were adopted.

Prominent among the ten amendments included in the "Bill of Rights" were the following:

> Powers not delegated to the Congress are served to the States and the people thereof.
>
> * * *
>
> The enumeration in the Constitution of certain rights shall not be construed to deny or disparage others retained by the people.

The States have never given Congress any power to regulate wages or working conditions within a State and the United States Supreme Court knew that an effort to obtain such powers through the proposed Federal Child Labor Amendment had, recently, been denied by the States.

In 1918 the United States Supreme Court had said in rendering a decision upon a Federal Child Labor Law:

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For Good Housekeeping...SAVE-LITE WHITE

THERE may be no love-birds or old rubber boots lurking underneath the lockers in your plant, but a coat of white, white Save-Lite amazingly brightens almost any factory interior. Shadows and dark corners disappear like magic, light levels jump, and plant housekeeping improves tremendously.

That's not theory . . . it's a proven fact! Plant after plant that paints with light-reflecting Save-Lite white shows lighting level increases of 75%, 125%, 200%. They report better work, fewer errors, greater output, less fatigue—and they tell us their workmen take new pride in keeping the plant cleaner. Such increases in working light occur because Save-Lite is *whiter*, reflects more light than many silvered mirrors, *diffuses* it scientifically!

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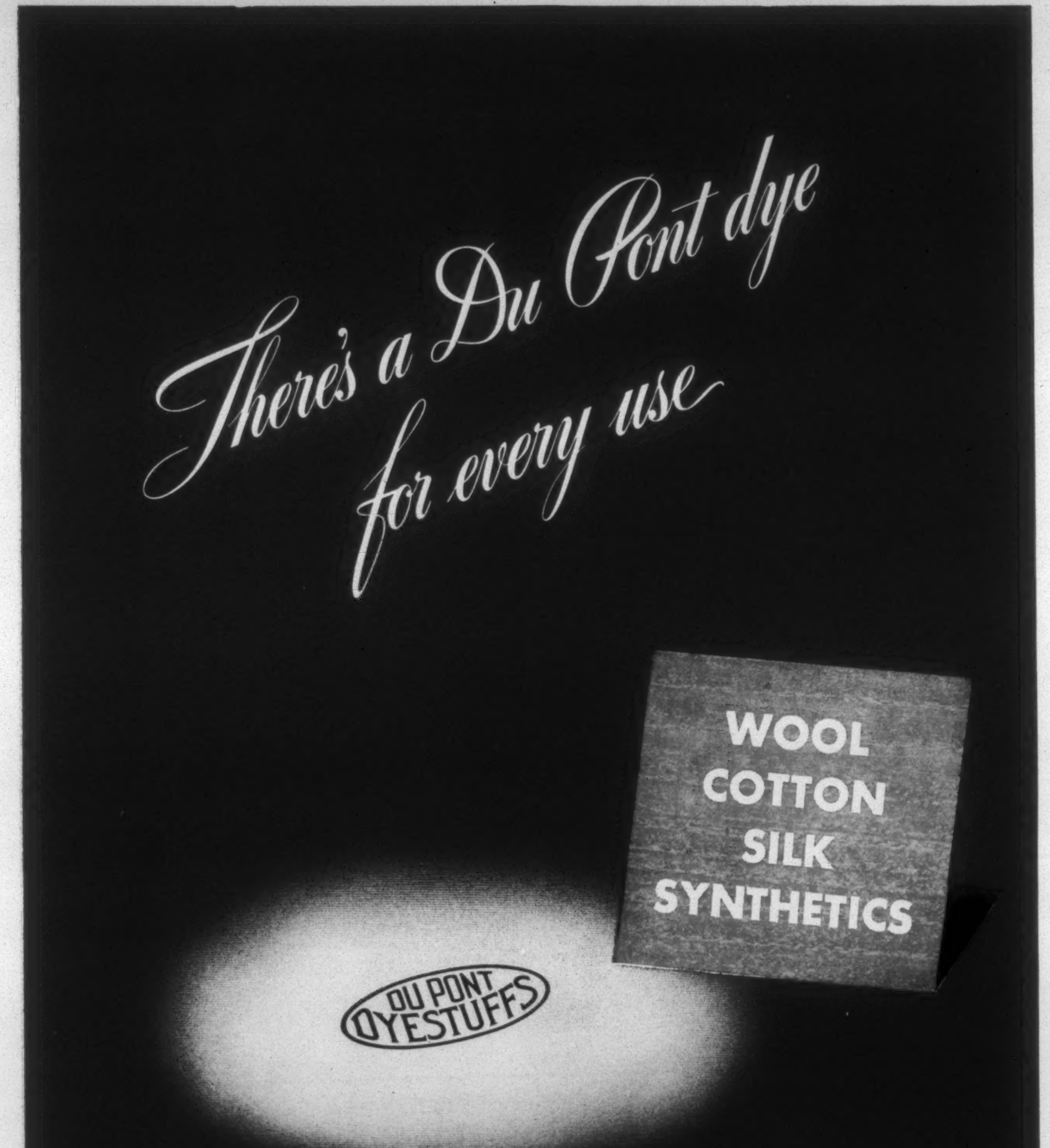

DU PONT DYESTUFFS

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Organic Chemicals Department • Dyestuffs Division
WILMINGTON, DELAWARE

Congress cannot do by indirection that which it has no power to do directly.

The present United States Supreme Court says in effect:

"Our friends wish to regulate the affairs of the States and in spite of the Constitution, in spite of the 'Bill of Rights' and in spite of recent evidence that the States are unwilling to surrender their reserved powers to Congress, we shall give them the powers they desire."

The decision has now been rendered by the United States Supreme Court and regardless of whether the ruling is right or wrong, it becomes the law and absolutely nothing can be done about it.

The path is now open for Congress to take over and regulate the internal affairs of what were formerly called "sovereign" States.

What Has 1941 In Store?

The McGill Commodity Service, Inc., in a syndicated article, discusses 1941 prospects in an interesting manner.

The following is their summary of things which may be expected:

Among other things, the following ten important developments are strongly in prospect: (1) All-time record for industrial production and consumption in heavy industries; iron and steel, building, automotive, etc., will lead. Earnings will increase in a broad manner. (2) Peak levels for employment and purchasing power directly aiding consumer goods industries; new records for department store sales; slowly but steadily increasing cost of production and cost of living. (3) Readjustment of tax laws—new sources taxed but generally increasing tax load. (4) Repeal or modification of the Johnson Act. (5) Sharp increase in the national debt limit, probably to 65 billion dollars. (6) Diminishing activity along the lines of New Deal economic experimentation. (7) Modification of the neutrality act. (8) Declining trends as regards public relief and farm aid. (9) Greater co-operation between business and government due to the urgency of the National Defense Program. (10) Higher commodity prices.

Inaccurate Reports

Several times each year a report is issued, by the North Carolina Department of Conservation and Development, relative to new textile mills and they are widely distributed through the press.

We have several times urged upon them the necessity of carefully checking the existence of the new mills which they list but regret to say that there are still many errors in the reports and that they continue to show much greater expansion than has actually taken place.

For instance, they list as new mills, in a report issued recently, the Kingston Hosiery Mills, Charlotte, N. C., and the Black Hosiery Mills Co., Midland, N. C.

Many firms which sell machinery and equipment went to the expense of sending salesmen or mailing advertising matter, only to find that the Kingston Hosiery Mills was the former Okey Hosiery Mills and that the Black Hosiery Mills Co. was simply an incorporation of the Black Hosiery Mills which have been operated at Midland, N. C., for several years. Among the other mills listed were several which were proposed but the plans for which were later abandoned.

It would not require a great expenditure of funds for the Department of Conservation and Development to check the new plants they list before broadcasting them, and such checking would save manufacturers of machinery and supplies money which they now waste in visiting or contacting prospects which do not exist.

Southern Textile Association Spring Meetings

The Spring meetings of the Southern Textile Association will be starting soon and we urge all overseers, superintendents and managers to attend as many of them as possible.

During recent months the textile industry has been expanding operations rapidly to care for the Nation's defense needs. As a result of this expansion many men have been promoted from second hand to overseer, and from overseer to superintendent. Many others have transferred to other mills where they will be faced with problems with which they are not familiar.

The divisional meetings of the Southern Textile Association were organized for the purpose of discussion of mill problems among the various executives. In this way a man can bring a problem before one of the meetings, and in the course of the discussion he will get the benefit of the experiences of other men who have been faced with the problem before and who may have solved it satisfactorily.

It is doubtful if any mill executive has attended one of the divisional meetings of this Association without getting at least one idea that he could take back to his mill and put into practical use.

Many mills are installing new machinery in an effort to increase their productiveness and lower their unit costs. Attendance at these meetings will increase the efficiency and effectiveness of the operating executives.

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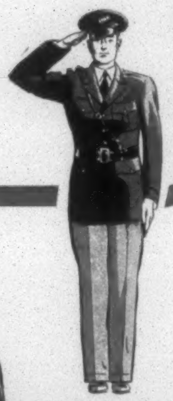

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DYEING AND FINISHING

The Use of Naphthols in Printing Cotton

By C. C. Smitherman

MILLIONS of yards of cotton prints are produced each week. A large percentage of this production is made with naphthols. In fact, practically the whole market of cheaper prints of full pattern is made with this type of colors, supplemented with other types such as pigments and indigosols. The qualifying phrase "of full pattern" indicates that naphthols are used when the percentage of coverage is sufficient to justify the initial and fixed cost of preparing or impregnating and drying into the goods a solution of the naphthol. Percentage of coverage is the ratio of the colored design to the whole pattern. Any procedure whereby such a large volume of goods is produced is always beset with its own particular problems.

Many variations of the printing process have been tried, such as printing a salt of a heavy metal, then padding through a solution of the fast color salt to form an insoluble diazotate. This was then developed by passing through a naphtholate solution. Obviously this method is too complicated. Another variation is to print the base or salt solution and then developing by padding through the naphtholate solution. This procedure gives unreliable results. The reverse of this latter method is the one now used so widely.

This system of naphthol printing can be divided into four distinct phases, namely:

(1) Naphtholating.

(2) Preparation of the print color paste.

(3) Printing.

(4) Soaping off or washing.

Naphtholating

As stated, naphtholating is the preparatory process of impregnating and drying a naphthol solution into the bleached cloth. Only a non-substantive naphthol such as Naphthol AS is used because the undeveloped yellow naphtholate must be washed out completely and easily to leave the grounds of the pattern white. We shall consider the use of Naphthol AS. The kiered or bleached goods are received by the print department and transferred to the prepare range to be naphtholated. The prepare range is simply a padder machine operated continuously with a long line of dry cans or a hot flue. Preparing is a process that if improperly carried out can be the cause of many subsequent printing difficulties.

The Naphthol AS should be dissolved with a controlled and constant amount of caustic soda. There is a definite relationship between the amount of alkali in the prepared cloth and the amount of organic acid that is added to the print color paste containing the fast color base or salt. An insufficient amount of alkali results in a poor color yield of the naphtholate and rolls that fade and are fairly unstable to the short storage necessary between preparing and actual printing. Weak and uneven prints are the final result. Either an excess or a deficient amount of caustic soda results in variations of shade and penetration. For the ordinary print cloths, such as 38½ 64x60 5.35,, the Naphthol AS solution is prepared: 1.1 to 1.4 ounces per gallon.

Printing Machines in a Southern Mill

Paste the Naphthol AS with a solvent (alcohol or cellosolve) and dissolve with ¾ as much caustic soda flakes (76% Na OH—previously dissolved). A small amount of an alkali-resistant penetrating agent is sometimes used to advantage in the naphtholating bath. Formaldehyde is not used as it inhibits the easy removal of the undeveloped naphtholate after printing. Cloth prepared with 1.3 ounces per gallon of Naphthol AS will accommodate and yield a full print with a print color paste containing 1 ounce per gallon of diazotized base or 4 to 5 ounces per gallon of the fast color salt. This estimate is dependent upon plant conditions and variations such as the depth of the engraving of different print rolls.

In the plant 150 to 200 gallons of naphthol solution are prepared in an iron tank. The liquor flows by gravity into the padder trough fast enough to maintain a constant level, replacing the liquor absorbed by the cloth. Closed steam coils in the trough maintain a high temperature of about 170° F. This high temperature permits good penetration and retards exhaustion of the naphtholate from the solution. The prepare range is operated at a speed as high as is consistent with complete drying of the cloth.

Types of Naphthol AS

The wettable types of Naphthol AS do not require an organic solvent, but are simply dissolved by adding a hot caustic solution and bringing to the desired volume with hot water. Ready prepared Naphtholate AS powder is convenient to use. This dissolves easily in hot water without further additions. Thus the cost and necessity of handling caustic and solvents is eliminated. Also, the use of Naphtholate AS simplifies the preparation of odd or smaller amounts than usual of the solution sometimes required to complete the preparation of a lot of cloth toward the end of the work-day or week-end. Although it is quite possible, naphthol solutions should not be kept over the week-end.

An important factor in naphtholating is the temperature of the first several dry cans over which the wet naphtholated cloth is passed. The temperature of the first four or six cans should be low enough to prevent migration of the naphtholate. Migration results in "faced" and unevenly prepared cloth. An upward graduation of the dry can temperatures is attained by the use of pressure control valves on the steam inlet line by covering the cans with backgrey cloth.

The prepared cloth is now wound into large rolls that are then ready for printing. Prior to and in connection with winding, it is advantageous to pass the cloth through a high speed tenter frame in continuous line with a brusher box or shearer. While being tentered, the cloth is humidified by steam escaping from a perforated steam pipe located under and across the tenter frame. Humidification, of course, must not be excessive. Prepared cloth must be protected from water spotting. Condensate sometimes drops onto the cloth form overhead cold water pipe lines. This can be presented by covering the pipes with cloth. A canopy of cloth hung directly beneath the ceiling will catch any water that forms on the ceiling itself. This extra process of framing and brushing is justified in that it straightens the cloth and removes any loose lint and waste material that would later interfere with printing.

It is usually necessary to store the prepared cloth for a while before it is printed. In such instances it should be stored in the usual "cool dry place." It must be protected from moisture, direct sunlight and acid or chlorine fumes that sometimes escape from the bleachery and dyehouse departments. Some protection is afforded by covering with backgrey sewed into large sheets.

Preparation of the Print Color Paste

The next important division in the printing process is the preparation of the print color paste. This is the assignment of the "color shop." The starch paste, medium for carrying the fast color salt or base, is cooked in steam jacketed copper kettles of 100 to 250-gallon capacity. A battery of these cooking kettles is aligned along a wall of the color shop. A more desirable arrangement is to place the kettles on a mezzanine floor directly above large wooden tanks used for storage of the paste.

Several very satisfactory starch mixtures are available on the market. The starch selected for use depends upon the woring properties, price, availability and the ease with which it is later removed from the printed cloth by washing. It is advantageous to select a starch mix that can be used for the other types of printing colors that are used in the shop, such as rapidogens and indigosols. Practically all of the various vegetable starches have been tried or used for printing. A mix may contain various combinations of starches such as corn, wheat, Irish or sweet potato, tapioca, sago, and modified starches. A starch mixture, ready prepared or plant mixed, is always necessary in order to obtain a paste of satisfactory flow or consistency. It is noted that the higher the total solids content of a starch paste, the poorer is the color yield or strength of the resultant printed shade.

The required amounts of thickeners and assistant chemicals are added into the cooking kettles while they are being filled with tap water. Large revolving agitators mingle the starches into a smooth cold water mixture. This mix is then cooked either directly by live steam or indirectly through the jacket of the kettle. The temperature of the water that is let into the kettle is always considerably lower than the jelling temperature of the starches. This insures a smooth paste free of any lumps of uncooked starch. A cloth bag strainer is usually attached to the spigot of the kettle water line to remove any flakes or sand that would later damage the engraving of the copper print rolls.

A satisfactory print paste can be prepared from:

80-90	lbs. corn starch.
22-26	lbs. tapioca starch.
1	lb. stearic acid flakes.
1	gal. lubricating oil, light weight, per 100 gals.

Cook 1 hour. Agitate both while cooking and cooling. Cooling is accomplished by flowing cold water through the kettle jacket. A more efficient and quicker cooling may be had by using commercial freezer units. These refrigerator systems, using ammonia compressors, also furnish a supply of ice water and chill the brine that is used in preparation and storage of the print colors and pastes. The cooked starch is easily conveyed into and from the storage tanks by force pumping through pipe lines three or four inches in diameter.

The print color paste is prepared by adding the required amount of the fast color salt or base solution into the chilled starch paste. Batches of 20 to 40 gallons are prepared at one time. The color paste is strained through 80x80 or 64x60 print cloth to remove any foreign matter and to smooth out small lumps of paste or color that may be present. The paste is then carried on small flat trucks to the print machine. These large volumes of paste are conveniently measured by weighing on automatic recording platform scales.

Fast Color Bases and Salts

There are literally tens of thousands of diazotizable organic compounds. Only about a dozen are of practical interest to the printer. These are the fast color bases. The fast color salts are stabilized water-soluble forms of the diazotized bases. The salts are more convenient to use but, as expected, they are relatively more expensive than the corresponding bases. The common practice is to employ bases of the fast colors that are used in large quantities and salts for the remaining colors. Besides affording a saving in most cases, bases are actually more stable in the print paste than the salts. Print machines can operate at somewhat higher speeds when bases instead of salts are used.

Mixing of fast color salts or bases in order to obtain a certain shade should be avoided though this practice is often necessary. Colors that have approximately the same stability and coupling rates may be safely mixed. For example, one would avoid mixing a rather unstable salt such as Garnet GBC and a Stable Fast Red B. The Garnet GBC, decomposing somewhat faster than the Red B, would cause shade variations especially if very large batches of this mix are made at one time. When mixing is necessary, the component salts should be made into separate color pastes and then mixed in the required proportions. This is especially true when mixing a fast orange and fast black to produce a brown. Any unused single colors can be used by another machine.

Printing

Each print machine is under the supervision of the printer. He is responsible for setting up and fitting the pattern and the quality of the print.

The prepared cloth, while being printed, is separated from the continuous rubber blanket by a wider cloth called backgrey. These two strands of cloth are fed into the machine simultaneously. Thus a lot of printed cloth requires an equal yardage of backgrey. The overlapping color from the print roll falls on and is absorbed by this cloth. Backgrey is used repeatedly by drying and occasionally washing. A heavy osnaburg type of cloth is used for this purpose and should be as strong as possible warpwise in order to reduce the number of "break-outs" Paper is not successfully used as a cheap substitute. Unbleached cloth intended for the bleachery and later processing is used in some instances. Kiering and bleaching removes the starches and color salt that fall on the cloth.

Soaping Off or Washing

After the printed cloth leaves the dry cans of the print machine, it is washed to remove the starches and undeveloped naphtholate. Most prints are washed open width in a continuous soaper. This is a range of 6 to 8 small wash boxes. The first box contains a hot soap-soda ash solution and is followed by rinse waters. The cloth is washed, squeezed and then dried on a connecting line of dry cans. Traces of the yellow naphtholate that may remain in the cloth are neutralized by adding a small amount of acetic acid to the last rinse water box. After drying the print is inspected and then ready for the finishing operations of starching, calendering, folding and packing.

New Dyestuffs and Chemicals

GENERAL DYESTUFF CORP. offers Celliton Fast Blue FFRS Extra Conc., a dispersed direct dyeing acetate blue of an exceptionally bright shade, suited for dyeing on the jig or in the box for production of a variety of shades of blue.

Katigen Crossdye Green BG-CF, a sulphur color which produces fairly bright shades of green. Dyes cotton or rayon in all their stages of manufacture, i.e., rawstock, hanks, packages, beams and piece goods. Suited for machine dyeing.

Para Brown RBA Extra Conc., a direct dyestuff which produces full shades of reddish brown when coupled with Nitrazol CF Extra. Suited for dyeing of cotton or rayon, both piece goods and yarn, and produces shades of good fastness to water, perspiration, hot-pressing and washing.

Benzo Bordeaux 7BA, a direct dyestuff producing fairly bright shades of a bluish red on the various forms of cotton and rayon. Discharged to good white with Rongalite C. Suited for dyeing of unions.

Monochrome Red FGA Conc., a chrome color to be applied by the afterchrome or the monochrome method; can also be dyed on a chrome mordant. Shades of very good-to-excellent fastness to light and very good fastness to washing, fulling, water, salt water, and perspiration.

Katigen Olive GG-CF, a sulphur color of good fastness to washing and very good fastness to light. Suitable for dyeing materials which are to be rubberized.

Fast Light Yellow GGX Conc., a level dyeing, fast-to-light acid yellow yielding bright shades of a greenish yellow. Useful in production of combination shades on such materials as dress goods, carpet yarns, etc., together with other fast-to-light and level dyeing acid colors.

Wool Fast Orange GA, a product for the dyeing of wool either as a acid color or as a chrome color. Used as the orange component in chrome color combinations on loose wool, slubbing, yarns and piece goods for the production of fast to wearing and fast to processing shades, in particular for olives and browns.

Cellitazol ONS Soluble, developed black for dyeing acetate rayon, in fabrics or yarns or mixed fabrics containing acetate. When diazotized and developed with Developer ON, produces jet black of good fastness to rubbing and washing.

CALCO offers Calcogene Green YSCF, a copper-free sulphur dyestuff of particular interest to dyers of goods to be rubberized. Useful to dyers and finishers of rayon-fiber wool blends. A non-oxidizing green and works well as a component in compound shades for dyeing cotton or rayon in the various types of dyeing machines.

Calcomine Catechine 2G, a direct brown dye with good dyeing properties such as exceptionally good solubility, penetrating and level dyeing properties. Useful for pad and jig dyeing of rayons. Also particularly applicable in the hosiery trade and for discharge effects on piece goods.

Calcomine Alizarine Blue Black B, a dye used as a component in Olive Drab and Kersey Green shades for U. S. Government materials. In combination with certain other dyes will meet Government standards for fastness properties. Will withstand wet finishing operations satisfactorily.

QUAKER CHEMICALS PRODUCTS CORPORATION offers a recently developed synthetic detergent—Dianol D, a combination of sulphonated compounds and high molecular weight aldehyde which is said to possess excellent detergent properties combined with wetting, leveling and penetrating action. It is highly stable to continuous boiling and to the presence of acid, alkaline solutions, acid salts and lime base salts. It is completely neutral in solution.

Mercerizing and Dypenol

Hart Products Corp., 1440 Broadway, New York, has recently issued a booklet entitled, "Mercerizing and Dypenol." The booklet describes the three methods of mercerizing, skein, warp and piece goods, and lists a number of advantages to be derived from the use of Dypenol in the caustic soda solution.

Some of the advantages claimed are ease of use, may be dissolved directly in the mercerizing caustic, no loss of wetting power on standing, no scum on caustic, easily washed out, low solvent effect on cotton waxes and pectins, low exhaustion rate.

New Synthetic Resin

Quaker Chemical Products Corp., of Conshohocken, Pa., offers a recently developed synthetic resin—Diapene EG-25—which is said to be of value for use in starch finishing, back-filling and cotton or spun rayon warp sizing formulas because of its binding, adhesive and plasticizing action.

The inclusion of Diapene EG-25 in such formulas effects improvement because the starch film is more pliant, flexible, adhesive and less apt to dust, according to the company's announcement. In the case of warp sizes in particular, tensile strength and warp elasticity are much improved and shedding or fuzzing of the warps in the looms is minimized. Heavy back-filling mixes which contain considerable quantities of clay, talc or other pigments are greatly improved because the finish will not dust out of fabrics as when starch-softener combinations alone are used.

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New Elastic Resin for Finishing Rayons and Cottons Reported

Philadelphia.—A new resin for use in finishing rayons and cottons, said to have the elastic qualities of rubber latex, has been developed by the Rohm & Haas Co. While similar to latex in its elastic properties, it is said not to oxidize with age, does not develop an odor and does not cause discoloration of the fabric. It can be used in concentrated form for coatings on fabric, or in more dilute form for impregnating fabrics to produce a variety of finishing effects.

Three grades are available. The soft grade, said to be the most elastic and rubber-like, is designed for use as a coating material, producing tough, elastic films. While it is soft, it is said not to be tacky, and films formed by its use do not soften with heat or become brittle and hard when cold.

The medium grade produces a firmer and drier film that is note quite as elastic and, in addition to providing coating effects, is said to permit a variety of fabric finishing effect on rayons and cottons.

The hardest resin in the series is said to be completely resistant to solvents. In low concentrations, it is claimed to produce such finishes on spun rayon fabrics as soft hand and full, non-slip finishes on rayon satins and taffetas.

This new elastic resin is described as a modification of the acrylate of RHoplex type, which has been in wide use in the textile field during the last few years. Like the other acrylate resins, it will be sold as a concentrated aqueous dispersion. Also, like the other acrylates, it produces films that are claimed to be tough and durable, colorless and odorless and to require no curing or special handling.

Atwood Appoints New Sales Manager

Atwood Machine Co., Stonington, Conn., announces the appointment of H. M. Bailey as sales manager. Mr. Bailey has resigned his position as assistant sales manager of the North American Rayon Corp. to become associated with Atwood in charge of sales.

Woodruff Now With Reyburn Mfg. Co.

John G. Woodruff, of Winston-Salem, N. C., has been appointed North Carolina representative for the Reyburn Mfg. Co., of Philadelphia, Pa., manufacturers of tags, gum, labels, seals and other paper products. Prior to this connection, Mr. Woodruff represented the manufacturer of a similar line in this territory for about 12 years and is well known to the trade.

Cotton Mill Production Formulae

(*Continued from Page 18*)

speed of the cylinder, by referring to the lettering and denomination of the pulleys and gears in the diagram, the speed of the doffer can be determined by the following formula.

$$\frac{165\times A\times B\times C}{a\times b\times c}=\frac{165\times 18\times 4\times 15}{7\times 15\times 192}=8.5$$

revolutions.

The yards per revolution of the doffer is,

$$\frac{3.1416\times 27\frac{3}{4}}{36}=2.424.$$

and the yards per minute is $2.424\times 8.5=20.6$. Assuming the total draft between doffer and coiler roll is 1.136, and the weight of the sliver in the can 50 grains per yard, the weight per yard of the webb from the doffer is $1.136\times 50=56.8$ grains.

The pounds per day of 8 hours 100 per cent production is,

$$\frac{2.421\times 56.8\times 8.5\times 480}{7000}=80.2.$$

The pounds can also be determined by substituting the circumference of the roll in place of the yards per revolution, using the following formula.

$$\frac{27.75\times 3.1416\times 8.5\times 56.8\times 480}{36\times 7000}=80.2$$

The time lost due to cleaning, stripping and grinding must be deducted from the theoretical calculation for the net pounds.

The speed of the calender roll figured from the speed of the cylinder is determined by the formula.

$$\frac{165\times A\times B\times C}{a\times b\times c}=\frac{165\times 18\times 4\times 15}{7\times 15\frac{1}{2}\times 25}=65.65\text{ r.p.m.}$$

Allowing for the tension draft between calender and coiler rolls 1.053, the weight of the sliver from the calender roll$=1.053\times 50=52.6$ grains per card. Assuming the diameter of the roll 3.9 inches, the pounds per day of 10 hours (100 per cent)=

$$\frac{3.9\times 3.1416\times 65.65\times 600\times 52.6}{36\times 7000\text{ grs. per pound}}=100.7$$

Another formula is

$$\frac{Y\times 65.65\times 600\times 52.6}{7000}=100.63$$

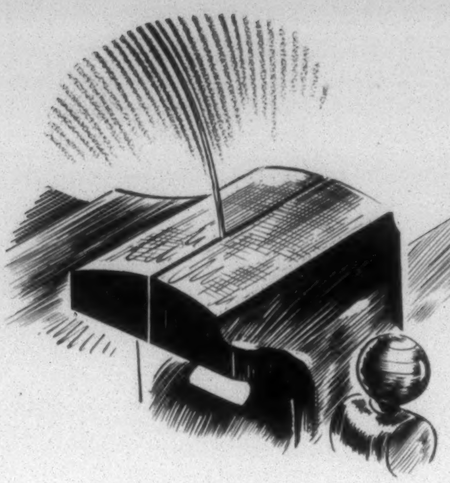
$Y=.34$ yards per revolution of a roll 3.9 inches in diameter=

$$\frac{3.1416\times 3.9}{36}=.34$$

The yards per minute$=.34\times 65.65=22.32$.

$$\frac{22.32\times 600\times 52.6}{7000}=100.67=$$

pounds per 10 hours as above.



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Working of New Laboratory Spinning Machinery Is Told

Philadelphia.—The new laboratory-type universal yarn spinning machine recently developed by the Wicaco Machine Corp. for experimental work on rayon or any synthetic yarns that can be spun, has been used in several of the most recent developments in the synthetic yarn field, according to H. J. Mugford, chief engineer for the company.

Described as a combination type pilot machine, the new spinner is said to spin any material that can be spun into thread by either the dry or wet process, and further winds the thread on bobbins or into centrifugal buckets. The lower portion of the machine is for wet spinning, for either the viscose type or the cuprammonium method, and consists of two pumps, metering the viscose through hard rubber filters, the glass goose necks, and through the spinnerettes into an acid coagulating trough. The filaments are wound either on aluminum bobbins by the bobbin system or into spinning buckets.

For dry spinning, the upper part of the machine is used. The acetate solution is forced through the upper mass line, metered through the pumps and fed directly into brass goose neck pipes, in which are attached brass filters and spinnerettes. The operation can be viewed through sight glasses on top of the telescoping heater cell. This construction permits changing the length of yarn travel in order to experiment with various solvent evaporations.

Industrial Rayon Corp. Net Profit Totals $2,392,476

Cleveland, O.—Industrial Rayon Corp. reported a net profit on operations for the year 1940, after all charges, of $2,392,476. This compares with earnings of $1,348,923, and is equal to $3.15 cents per share for 1940 as compared to $1.77 cents per share in the previous year.

Gross income for the year totaled $4,747,878, with deductions, $1,792,375 and taxes $563,022. Current assets are $8,594,014, including cash on hand and demand deposits of $4,632,384. Current liabilities are $1,943,665, and total capital and earned surplus as of December 31st amounts to $10,972,620.

Index To Advertisers

Where a — appears opposite a name it indicates that the advertisement does not appear in this issue.

Page

—A—

American Cyanamid & Chemical Corp. 2
American Moistening Co. —
American Viscose Co. 7
Armstrong Cork Co. 21
Arnold, Hoffman & Co., Inc. —
Ashworth Bros. 27
Auffmordt, C. A. 58

—B—

Bahnson Co., The —
Bailey & Co., Joshua L. 46
Bancroft Belting Co. 59
Barber-Colman Co. 19
Barkley Machine Works —
Barnes Textile Associates 55
Borne, Scrymser Co. —
Brooklyn Perfex Corp. 43
Brown Co., The David 58

—C—

Carolina Refractories Co. 59
Carolina Rubber Hose Co. 40
Carter Traveler Co. 45
Charlotte Chemical Laboratories, Inc. 59
Charlotte Leather Belting Co. —
Ciba Co., Inc. 36
Clinton Co. 27
Cole Mfg. Co., R. D. 29
Corn Products Refining Co. 47
Crompton & Knowles Loom Works 15
Cundiff, John O. —
Curran & Barry 46
Curtis & Marble Machine Co. —
Cutler Co., Roger W. —

—D—

Dary Ring Traveler Co. 55
Daughtry Sheet Metal Co. 43
Dayton Rubber Mfg. Co. 3
Detergent Products Co. —
Detex Watchclock Co. —
Diehl Mfg. Co. 52
Dixon & Bro., R. L. 48
Dixon Lubricating Saddle Co. 52
Drake Corp. —
Draper Corporation 4
Dronsfield Bros. 50
Dunkle & Co., Paul A. 55
Dunning & Boschert Press Co. 53
DuPont de Nemours & Co., E. I.
Fine Chemicals Dept. —
R. & H. Dept. 5
Dyestuff Division 34

—E—

Eagle Roller Repair Works 47
Eaton & Brown 43
Emmons Loom Harness Co. —
Engineering Sales Co. 54

—F—

Fink & Elliott 50
Foster Machine Co. —
Fulton Bag & Cotton Mills 28

—G—

Garland Mfg. Co. 52
Gastonia Brush Co. —
General Coal Co. —
General Dyestuff Corp. 13
General Electric Co. —
George Machine Works, W. J. 43
Gill Leather Co. —
Greensboro Loom Reed Co. —
Greenville Belting Co. 43
Gulf Refining Co. 6

—H—

Hart Products Corp., The —
H & B American Machine Co. —
Houghton & Co., E. F. —
Houghton Wool Co. 26
Howard Bros. Mfg. Co. —

—I—

Ideal Machine Co. —
Iselin-Jefferson Co. —

—J—

Jacobs Mfg. Co., Inc., E. H. —
Jenkins Metal Co. —
Johnson Chemical Co. —

—K—

Keever Starch Co. 49
Kempton Parts & Spring Co. 53

Page

—L—

Laurel Soap Mfg. Co., Inc. —
Hotel Lincoln 54
Link-Belt Co. —
Loper, Ralph E. —

—M—

Manhattan Rubber Co. —
Marlin-Rockwell Corp. —
Mecklenburg Hotel —
Merrow Machine Co., The 56
Mill Devices Co. —
Montgomery & Crawford 27
Moreland Sizing Co. —
Morton Chemical Co. 57

—N—

National Aniline & Chemical Co. —
National Lead Co. —
National Oil Products Co. —
National Ring Traveler Co. 51
New Departure Mfg. Co. —
N. Y. & N. J. Lubricant Co. —
Noble, Roy —
Norlander Machine Co. —
Norma-Hoffmann Bearings Corp. 54

—O—

Old Dominion Box Co., Inc. 63
Onyx Oil & Chemical Co. 36

—P—

Pabst Sales Co. —
Parks-Cramer Co. 25
Pawtucket Spinning Ring Co. —
Pease & Co., J. N. —
Penick & Ford —
Piedmont Processing Co. 27
Proctor & Schwartz 48
Provident Life & Accident Ins. Co. —
Rice Dobby Chain Co. 53

—R—

Riggs & Lombard, Inc. —
Rohm & Haas Co. 8
Roy & Son Co., B. S. 58

—S—

Saco-Lowell Shops —
Seydel-Woolley & Co. —
Shepard, Jos. C. 40
Sherwin-Williams Co. 31
Sirrine & Co., J. E. —
Socony Vacuum Oil Co. 32 and 33
Solvay Sales Corp. —
Sonoco Products —
Southern Spindle & Flyer Co. 51
Southern Standard Mill Supply Co. —
Staley Sales Corp. —
Stanley Works, The 27
Steel Heddle Mfg. Co. —
Stein, Hall & Co. —
Sterling Ring Traveler Co. 36
Stevens & Co., Inc., J. P. 46
Stodghill & Co. —

—T—

Terrell Machine Co. 46 and 48
Texas Co., The —
Textile-Finishing Machinery Co. —
Todd, Inc., F. C. 44

—U—

U S Bobbin & Shuttle Co. 63
U. S. Ring Traveler Co. Front Cover
Universal Winding Co. 17

—V—

Valentine & Co., J. W. —
Vanderbilt Hotel 56
Veeder-Root, Inc. —
Victor Ring Traveler Co. 50
Vogel Co., Joseph A. 63

—W—

WAK, Inc. 27
Walker Mfg. Co. 56
Warwick Chemical Co. Back Cover
Watson-Williams Mfg. Co. —
Wellington, Sears Co. 46
White & Co., G. A. —
Whitin Machine Works —
Whitinsville Spinning Ring Co. 29
Wickwire-Spencer Steel Co. 41
Windle & Co., J. H. —
Wolf & Co., Jacques —

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Care Textile Bulletin.

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for a group of Southern cotton mills. The applicant must be a capable young man with some buying experience, strong of character, pleasing personality, with initiative and capable of becoming a purchasing agent within a reasonable time. He should furnish details of experience, age, name of past and present employers, references, reason for making change, and salary expected.

Address "A. P. A.,"
Care Textile Bulletin.

WANTED

For immediate employment, an experienced weave room foreman for a jacquard tapestry mill. In replying to this paper please state age, experience and expected salary.

Address "Jac-Tap,"
Care Textile Bulletin.

ATTRACTIVE POSITION OPEN—Capable young man, preferably 35 to 40 years old, fully experienced in the manufacturing and finishing of cotton goods such as denims, hickories, coverts, suitings, etc., who has had experience as superintendent, or assistant superintendent; to assist the General Manager in his supervision and control of manufacturing operations. Address your reply to B. F. Berman, Treas. and Gen. Mgr., Stonewall Cotton Mills, Stonewall, Miss.

WANTED—Position as Superintendent of plain cloth or yarn mill. 15 years' experience as overseer carding and spinning; 6 years assistant and night superintendent. Want full charge of job to prove ability. Good manager and organizer of help for production and quality. Best references. Address "Quality," care Textile Bulletin.

SECOND HAND in Carding desires change. 12 years' experience white and colored work. At present second hand in 70,000-spindle mill. I. C. S. graduate. A-1 references from present employers. Married, age 36, strictly sober. Address "Second Hand," care Textile Bulletin.

OFFICE POSITION WANTED by young lady with 7 years' experience in office of textile plant. Now employed as billing clerk. Wish change with chance of advancement. Address "376," care Textile Bulletin.

TWIN MACHINE OPERATOR wants to change location. Now employed. Ten years on two jobs. Model E only. Other help. Address "Operator," care Textile Bulletin.

POSITION WANTED as Weave Room Foreman. 15 years' practical experience on plain narrow goods including prints, sheeting, B. C., 80s, drills, P. K. sateens, and osnaburg. Know looms, cloth and importance of production, quality. 43 years old, married. Good manager of help. Good references. Inquiries invited. Address "15," care Textile Bulletin.

Higher Cotton Goods Prices Are Seen By Group Head

Boston, Mass.—Russell T. Fisher, president of the National Association of Cotton Manufacturers, asserted recently that cotton goods prices "may go up moderately, but in the event of re-enactment of the processing tax, they will certainly go up materially,"

Declaring that a proposed "certificate plan" was a "thinly disguised" processing tax, Fisher told the Massachusetts State Federation of Women's Clubs that it would "force the public to pay out of all proportion to what the farmer receives in benefits." If there is a farm problem, he suggested, it "should be taken care of out of treasury funds raised by taxation on all industry instead of selected industries."

Lancashire Cotton Mills To Curtail Production

Manchester, Eng.—Means of drastically curbing production in the Lancashire cotton industry are being considered to step up manufacturing of munitions while conserving imports for shipping space.

The Master Cotton Spinners and Manufacturers' Association is formulating a curtailment plan at the request of the Cotton Controller.

Meeting today with members of the Association, Sir Percy Ashley told textile manufacturers that production of goods for other than export or Government needs will have to be confined in the future to a few weaving sheds or on a smaller number of looms over the whole industry.

A substantial rise in selling prices is seen developing if the proposed move goes through.

Burlington Mills Corp. Declares Dividends

Greensboro, N. C. — Burlington Mills Corporation has declared an initial dividend of 68¾c a share on the $2.75 cumulative convertible preferred stock. It also has voted the regular quarterly dividend of 25c a share on the $1 common stock. Both dividends are payable March 1 to stock of record at the close of business January 10.

Supreme Court Upholds Wage and Hour Law

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An action brought by the Opp Cotton Mills to have this order set aside was denied by the United States Circuit Court of Appeals for the Fifth Circuit on April 2, 1940. The Supreme Court of the United States, on October 14, 1940, granted a writ of certiorari for which both parties to the issue had petitioned.

Ten other cotton mills of the South, plus a group of small mills organized as the Southern Cotton Manufacturing Association, joined in the petition to the Supreme Court.

The Opp case set forth three types of questions in the petition for certiorari:

(1) Whether the Fair Labor Standards Act is authorized by the commerce clause, violates the Tenth Amendment, and the due process clause of the Fifth Amendment, and is an unconstitutional delegation of the legislative power of the Congress to the Administrator of the Wage and Hour Division of the Department of Labor.

(2) Whether an order of the Administrator prescribing a minimum wage in an industry is unauthorized by the statute and invalid because the procedure of the Administrator and an industry committee appointed by him pursuant to Section 5 of the act, which resulted in the order, is unauthorized and violates the Fifth Amendment.

(3) Whether the order of the Administrator is invalid because its findings on which the order is based are without the support of substantial evidence. The challenged findings were that the minimum wage established by the order would not substantially curtail employment, and that a classification within the industry is unnecessary for the purpose of fixing, for each classification within it, the highest minimum wage which will not substantially curtail employment in such classification and will not give any competitive advantage to any group in the industry.

In the lengthy decision handed down by Justice Stone it is apparent that this particular case was given a little extra consideration in order to bring out clearly and distinctly that the Fair Labor Standards Act and the administration of it was constitutional in all ramifications.

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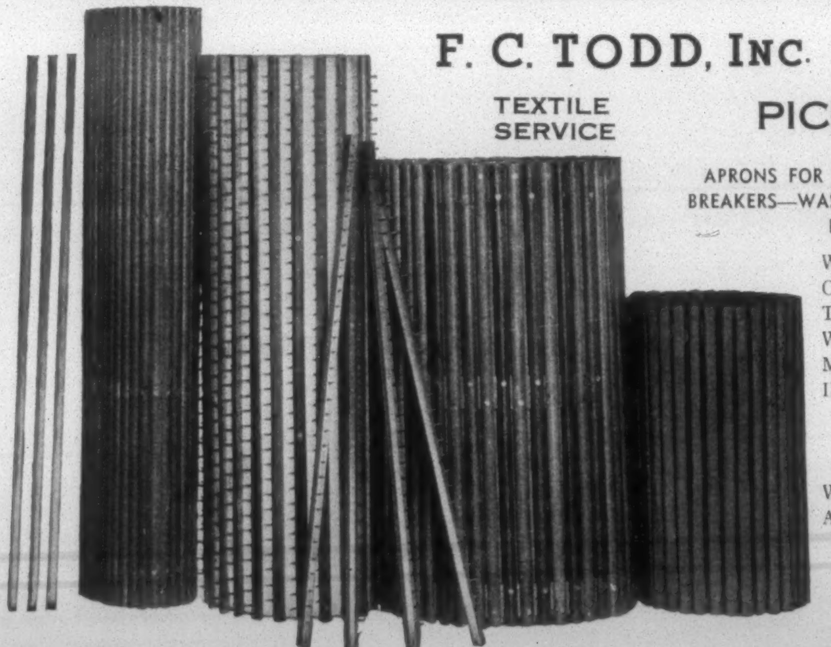

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BREAKERS—WASTE MACHINES—GARNET MACHINES—
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WE MAKE ALL STYLES OF PLAIN AND SPIKED SLATS FOR REPAIRING ALL MAKE APRONS

QUALITY AND SERVICE OUR MOTTO

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Testing Co. Develops Stamptex, a Fugitive Ink for Stamp Pads

The United States Testing Co., Inc., has developed a new product for identifying greige goods to supplement their present line of certified water soluble and cumol oil soluble fugitive tints. This product is known as Stamptex

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At present, there are two methods of accomplishing this identification. One is by the use of marking crayons. The other method consists of applying a water solution of a fugitive dye to the cloth by painting with a brush. This latter method proved troublesome in many instances. Very often the operator would paint the solution too heavily, causing the stain to resist removal in the subsequent scouring operation.

The use of Stamptex is said to afford a simple means of identification without encountering any of these difficulties. Stamptex is a fugitive ink which is brushed onto an ordinary stamp pad and then applied to the greige goods by means of a rubber stamp. It can be applied to both woven and knitted goods. It is very useful for identifying different lots of hosiery by merely stamping the welt of the hose.

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Only four years in this highly competitive market, and their sales charts show a steady rise since the very beginning.

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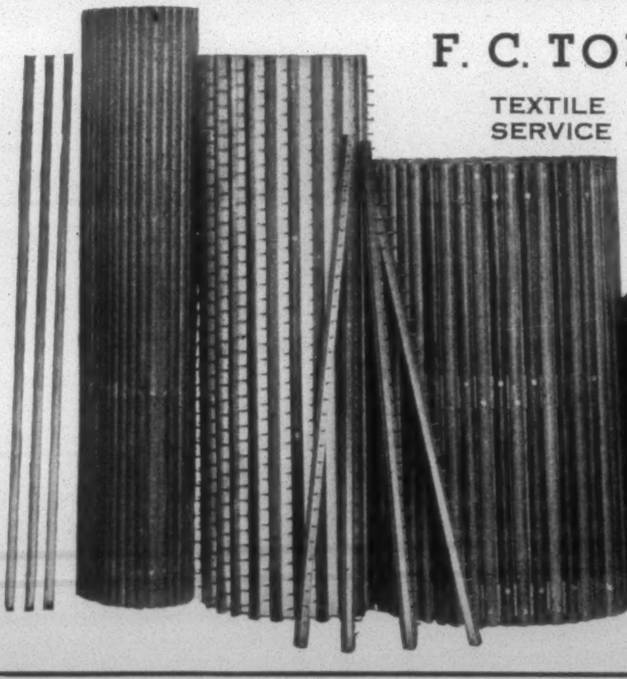

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CHARLOTTE, N.C.

Cotton Goods Markets

New York.—All parts of the cotton gray goods market have been active in recent days in varying amounts and degrees. Industrial fabrics and bag goods have probably led the parade, but it is believed that no part of the market is suffering even slightly from lack of orders. Production and meeting delivery schedules seems to be the troubles that are besetting the Southern mills, with spotted reports of mills working six-day weeks and more and more mills adding the third shift.

Quite a bit of the recent industrial purchasing runs through September and concentrates upon wide goods, deliveries of which grow progressively scarcer for the period between now and mid-year. As one reflection of the tightness of prompt or nearby yardage, it is noted that some industrial buyers who ordinarily use nothing but long-cuts are taking double-cut bale goods if these were all that are available.

The persistent movement of industrial textiles were related by some observers to the now widespread policy of purchasing agents of anticipating their needs in many commodities four to six months. Although textiles were not the first to be embraced by this policy, it is said that a number of the industrial users now feel that the pressure of defense needs, plus the cumulative influence of anticipations, will carry prices still higher in this field.

The price advances of a number of coarse goods have tended to quicken recently particularly in the industrial and bag goods markets. Both among buyers and sellers this acceleration led to words of warning.

It has been reliably reported from Washington that those in Washington who are concerned with price stabilization and prevention of runaway prices are showing definite concern over the rise. They have had complaints that without any real rise in raw cotton costs mills have increased cloth prices unreasonably. Some prices have risen as much as 50 per cent, they say, and mill margins as much as 75 per cent.

So far there has been no move toward price control or any intervention by the Government, but if there should be an unreasonable and unwarranted rise it is always possible that something will be done.

Some mill men are quoted as saying that they must make large increases in the price of their product to compensate for increased taxes, labor costs, etc., and that in a sense they are tax collectors for the Government.

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Cotton Yarn Markets

Philadelphia.—Sales of combed yarns, single and two-ply, were roughly two-and-a-half times as great in January of this year as they were in 1940, according to reports, and prices are keeping about in line with developments in sales, shipments, and production during recent weeks. About 11,500,000 pounds of combed yarns were sold during the month of January.

At the end of February the combed sale yarn mills still will have in the neighborhood of 20 weeks' unfilled business on their books, whereas, a year ago their shipments had so far outdistanced their sales that as of February 29, 1940, they had only eight weeks' unfilled orders left. This reflects the general condition among the combed yarn mills, including all counts of singles as well as two-ply yarns. But as regards particular counts, especially two-ply, some of the mills are sold ahead for 25 weeks and for part of this production the delivery requirements are such that these spinners face a definite increase in unit cost over the next two or three months.

Locally it is expected that lack of availability of wanted deliveries of combed yarns for non-military use will continue to have more influence in determining the prices than such considerations as cost of raw material and direct outlay for labor.

In this connection it might be mentioned that there are reports of concern in Washington over the increases in price of standard textile materials, particularly combed yarns. Specifically, it is reported that complaints have reached Washington that without any large change in raw cotton prices, prices of yarns have increased to an alarming extent and are out of proportion to what they should be. In some cases it is claimed that prices have advanced as much as 50 per cent and manufacturers' margins as much as 75 per cent, with little change in manufacturing cost to the producer.

Among the carded sale yarn mills there are a number that have been offering limited supplies for wanted deliveries at lower rates than are shown in the published lists. A few such mills were more bullish last fall than they are now and this is said to be a reflection of relatively quiet conditions among some of the weaving mills, though the knitters have lately been buying carded ordinary and extra-quality more liberally.

Leading mills have strictly maintained quotations meanwhile, so that an unusual spread appears in quotations from the yarn mills for yarns of comparable quality.

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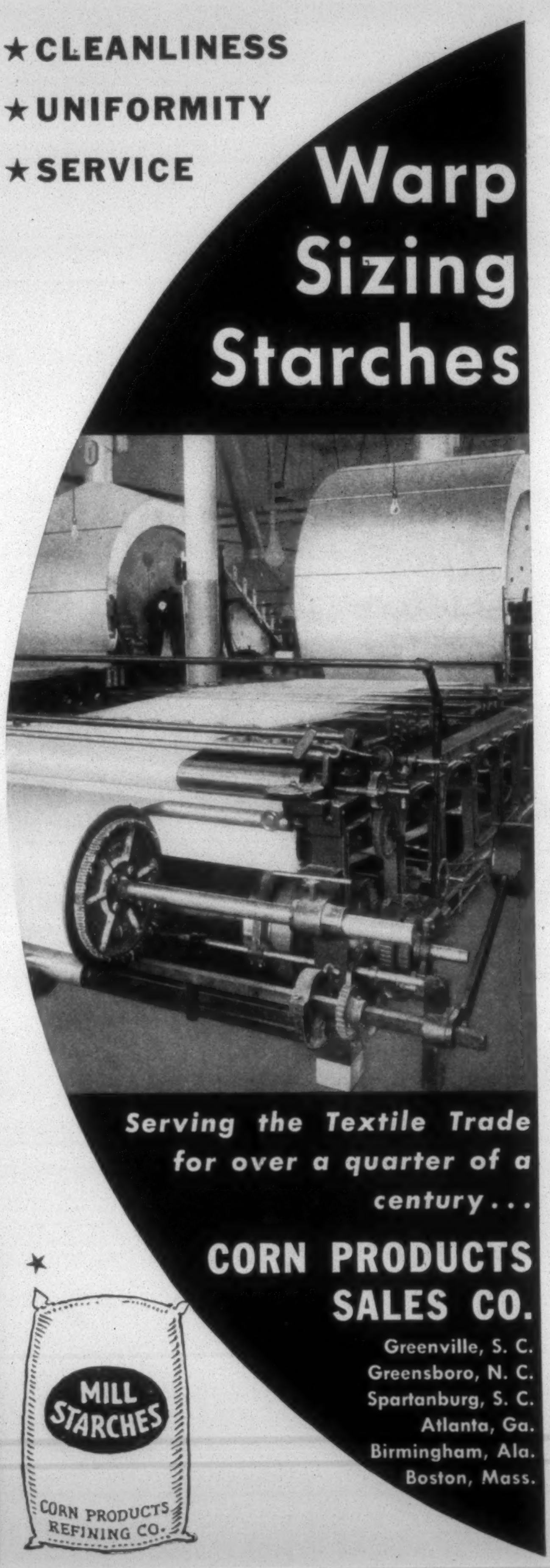
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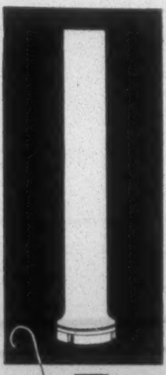

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Recent Advances in Textile Testing Methods

(*Continued from Page 16*)

dustry but in increasing number trained men are being made available to operate them and to interpret the results.

Microscopic Projection

The latest contribution of optics to textile research is to be found in the form of a device originally developed for the handling of microprints. Intended initially as a means for projecting in full size or larger the printed pages of a book or manuscript from a series of micrographs, the importance of this instrument as a means for analyzing fabric and yarn structure has become apparent. The device is known as the "Readex" and is an inexpensive, self-contained device which will project at magnifications up to eighteen diameters a small portion of a fabric which is conveniently placed in a sliding holder. Illumination is provided at 45 degrees with the structure of the sample either from left or right or from both directions simultaneolsly under the control of a single switch conveniently located. The image is formed on a translucent glass screen and is extremely clear cut and easy to follow. The sample is under control in two directions by means of conveniently placed knobs and fabric analyses as to weave and other details of structure are very conveniently made. An operator can follow the intersections of yarns very easily on the enlarged image and by means of a typewriter can reproduce a point paper diagram in a very few minutes. Defects in fabrics also show up very nicely and the range of illumination makes it possible to show details in this connection which would otherwise be difficult or impossible to see. It further has the advantage of making visible to a large number of people exactly what it is desired to show. One difficulty in the use of a microscope in this connection is the fact that only one or at most two people can use the instrument at the same time and one is never quite sure whether each observer is really seeing the thing which it is desired to show. Here the difficulties of projection which would require a dark room and expensive equipment are eliminated. Ingenious design enables the operator of the Readex to change the magnificatiton of the sample at will and to keep the specimen automatically focussed throughout the changes. It is thus possible to investigate a large or a small field and to change the size of the image almost at will. There are no undesirable heating effects on the specimen and fabrics may be left in the apparatus for an indefinite time without damage. It is easily possible to mount twelve to sixteen samples on a single background and to shift from one to another in a very few seconds. Comparisons may therefore be made of the face and back of a fabric or of one fabric with another or of a defective fabric against a standard with ease and satisfaction.

Fundamental Research

Not only is the tendency of the modern textile technology to relate the results of scientific research already accomplished to practical application but also to establish a continually increasing amount of valuable fundamental information. Thus the Textile Foundation program at the National Bureau of Standards and at M. I. T. is concerned with the ultimate structure and properties of textile materials. The chemistry, botany, histology and certain of the physical and optical properties are being investigated at the National Bureau of Standards by the group under the direction of Dr. Milton Harris. An interesting series of publications are coming from this group at frequent intervals and this will form an increasingly valuable basic literature on the subject. It has been found possible to modify the architecture of textile fibres by chemical and other treatments so that the changes in physical and optical properties may be studied conveniently. It has been found in certain instances that not only can the properties be changed but that they can be restored to their original condition once more. When we find exactly how the atoms and molecules of the natural and synthetic fibres are arranged and how this arrangement affects the properties which are of interest to the manufacturer and the user and further are able to manipulate this structure so as to change the properties at will we have achieved a very considerable degree of progress in the art.

The work at M. I. T. centers in the correlated fields of optical and physical examination of individual filaments. The optical work is concerned with the study of more precise and rapid means for the measurement of the refractive indices of textile fibres and since all fibres used are doubly refractive for the determination as well of the specific index of birefringence. This latter quantity is found to be closely related to the physical properties of the substance and varies as the resilience, the elastic and plastic properties change. It makes a convenient and nondestructive method for the determination of existing conditions in the material and may readily develop into a technique which will allow of the analysis of difficulties which show up in defective fabrics without the necessity for exhaustive tests or expensive laboratory equipment. The technique originally occupied a matter of a day or more but has now been reduced in most cases to a matter of a very few minutes. The preliminary work has already been published by the Textile Foundation and additional information is being prepared for publication at this writing.

The physical portion of the testing is concerned with the phenomena resulting from creep and creep recovery of individual filaments. It is found that there is a striking similarity between the properties of textile materials and the properties of other plastics and that a good deal of the information already obtained by scientific research in the field of metals, rubber, and glass is transferrable into the field of textiles with suitable modifications. It is found that textile fibres possess a "memory." They recollect previous treatments which have resulted in stress and strain changes in their structure and behave in the course of subsequent treatment in a manner which can reasonably well be predicted mathematically when the past history of the specimen is known. In addition to investigating the effect of loading at various rates and under various conditions to the breaking point investigations are also underway in detail as to the behavior of the specimen under small but constant loads which act over a long period of time and then may be removed for a long period of time. This type of testing or a cyclic testing where recordance of small load is applied and removed alternately according to a regular schedule produces information which throws considerable light upon the ultimate molecular structure and behavior of the materials. It should also be of very considerable interest and importance in the study of fibres which have been treated chemically or otherwise to alter the structural arrangement of these molecules.

If there is one thing outstanding in the progress of textile technology over the past ten years it is the increasing friendliness between the various branches of science and an increasing willingness for scientists in all branches to co-operate actively. The biologist, the botanist, the physicist, the chemist, the microscopist and the mathematician are all co-operating intensively and efficiently to provide better means of testing textiles at less cost and in shorter time and more important to interpret the results of this research to the industry in terms of language which the industry can understand and utilize. Research conducted at whatever great expense and however well is

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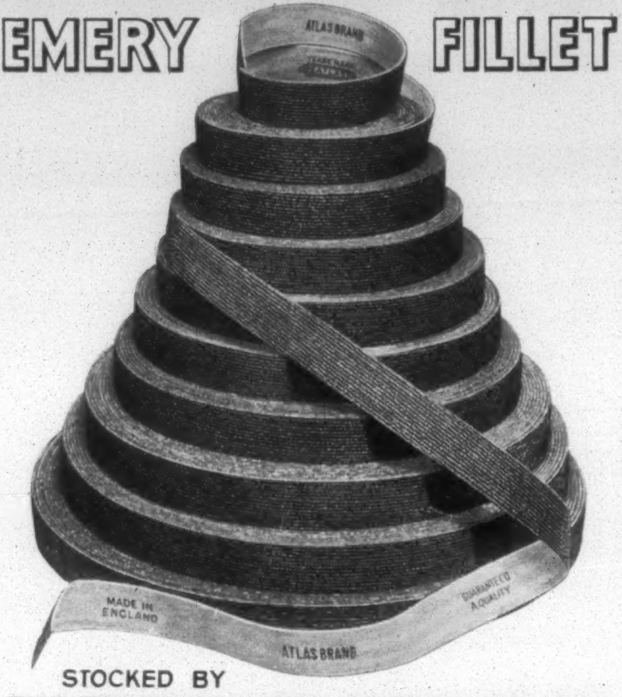

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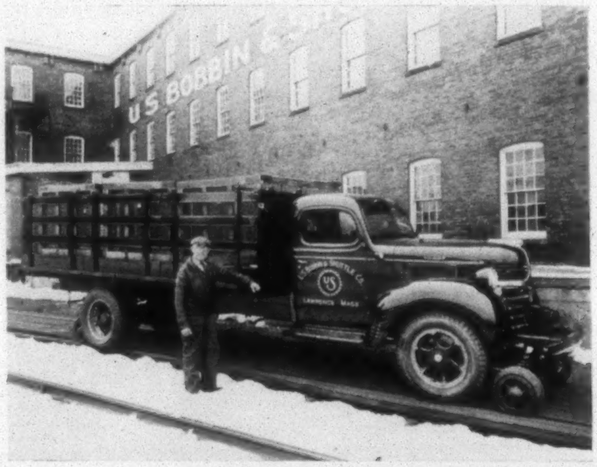
useless unless it can be made to serve the industry for which it is intended. It is hoped that industry will increasingly recognize what is being made possible for it and will increasingly support this type of research both by its moral encouragements and with the proper financial backing.

U S Bobbin & Shuttle Co. Uses Unique Truck

The U S Bobbin & Shuttle Co. has two large plants which are within 100 yards of each other in Lawrence, Mass. The management of the company has found a novel means of transporting raw materials and finished products between the two buildings via a double purpose truck. This 1941 Dodge truck is equipped with a type of pilot wheels by which it can run on railroad tracks on the siding that connects the two plants, and when not in use on the rails, the pilot wheels can be lifted up automatically so that the truck becomes a conventional road vehicle. Both the rubber tires and the pilot wheels help to sustain the load when the truck is driven on the rails, the rubber tires furnishing the necessary traction and locomotion. When not in use on the rails the pilot wheels are suspended in a manner which allows the truck to be an efficient road vehicle either on the highways or at other loading platforms of the plants. As this is the first vehicle of this kind which is being used in Lawrence, it has naturally created a great deal of interest among manufacturers who employ a combination of rail and highway transportation.



Texas Combing Plant To Start Runs Soon

New Braunfels, Tex.—The Robert E. Pent Wool Top-Manufacturing Co. is installing machinery and other equipment in a large building which it recently purchased here. This combing plant will be the only one of its kind south of Philadelphia, according to Robert E. Pent, of Philadelphia, president of the company. At present, he said, 90 per cent of the wool top made in this country comes from three States, Massachusetts, Rhode Island and Pennsylvania.

Squire Kershaw will be supervisor of the plant, and Thomas Rowe will be in charge of grading and sorting the wool. It is believed that the plant will be in operation by the middle of February.

Testing Co. Finds Skin Irritation or Dermatitis Still a Problem

Recently reported instances of skin irrtation due to wearing of newer textile materials which have been finished by new and modern means have created considerable interest in the textile and consumer fields.

In order that the skin irritating effects of these textiles and the finishes thereon may be accurately judged, the United States Testing Co., Inc., has developed a series of specialized tests to determine the presence of harmful irritants and toxic agents in a wide variety of materials and fabrics such as dresses, hosiery, under-garments, overcoatings, suitings, furs, jewelry, upholstery, etc.

These tests were developed as a direct result of many retail store and consumer complaints as to arritating effects of a material or fabric on the skin, producing in many cases, a severe rash or eczema, generally followed by an infection. This condition is known as dermatitis or inflammation of the skin, and is produced by the toxic or primary irritant in the wearing apparel.

While experience has shown that the majority of dermatitis cases are due to a particualr idiosyncrasy of the person it is also a known fact that in some instances certain finishes or other harmful ingredients can be present which are capable of producing an irritation.

The laboratories of the United States Testing Co., Inc., have developed three tests for the examination of these materials. These are: No. 1, the Patch Test; No. 2, the Sensitivity Test (in animals), and No. 3, the Toxicological effect Test (in animals).

In the case of questionable materials, Tests No. 1 and No. 2, the Patch and Sensitivity Tests, are recommended. Where dermatitis has been known to result from the wearing of a particular article, the Toxicological Test is urged.

MacRae Heads Carolinas Wage and Hour Department

Washington, D. C.—Stephen R. MacRae, supervising inspector in charge of the Columbia, S. C., office, will be appointed acting director of the Carolinas region when Director Arthur L. Fletcher, of Raleigh, N. C., takes leave for military service, it was announced November 28th by Col. Philip B. Fleming, administrator of the Wage and Hour Division.

Mr. MacRae, who is senior official in the region, will be designated to serve as director during the temporary absence of Major Fletcher, who has been notified that he will be expected to report soon to selective service headquarters in Washington.

Colonel Fleming pointed out that under government regulations employees who are called for military service retain their status and are to be returned to their original posts when their military service is completed. For that reason, he said, no one will be appointed to succeed Major Fletcher because there will be no vacancy.

Mr. MacRae will continue to make his headquarters in Columbia. Mrs. Pauline Horton, supervising inspector, will remain at the Raleigh, N. C., office, and will be in charge of that division.

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Capital, Labor, and Market Are All the Same

(*Continued from Page 10*)

than ever dreamed of. Capital accumulated while prices for goods reached new low levels.

Now the attacks on this leg of our stool are coming from people who advocate political control over the three points of our triangle that would curb the natural demands of each element—namely:

(a) By regulation affecting the demand of market—such as price control;

(b) By too much regulation affecting wages and hours of work that result in creating artificially high labor costs;

(c) By all regulations that limit Management in its struggle to devise improved production methods;

(d) By all regulations which limit return to or flow of new capital into industry;

(e) By taxation which consumes the wealth produced before it can be distributed to Market, Labor and Capital:

(1) In our umbrella story, if taxes take only a small part of the 50c increase in wealth of the second factory day, then a substantial part of the increase is available for distribution to Labor and Capital and the standard of living rises.

(2) If taxes take the whole 50c increase, our triangle is at a standstill.

(3) If taxes take more than 50c increase, prices must rise, wages must fall and return to capital be reduced.

The standard of living necessarily falls.

Now these attacks on the enterprise system have not in the past nor will they in the future come suddenly and the danger of the situation is the gradual chipping away of first one element and then another that is taking place—each one so slight that it is hardly noticeable in itself but when taken together over a period of years is apt to break down our Free Enterprise system. That is why all of us who love our country and wish to preserve it for our children should take more interest than ever before in seeing to it that our representatives at Raleigh and Washington are informed as to our views. Let them know how you feel and also talk to the people who work under you at every opportunity and explain to them the advantages they have in this great country of ours. It is through these two directions that you can be of great service in preserving the freedom that we now enjoy—not only for yourselves but for generations to come."

Plan To Introduce Fiberglass Thread

Sewing thread made of very fine fiberglass will soon go into commercial production, according to Games Slayter, vice-president in charge of research for the Owens-Corning Fiberglass Corp. Mr. Slayter made this announcement at the monthly meeting of the American Association of Textile Technologists. He asserted that this thread would be particularly important in sewing collars of men's shirts, for while the shirt fabrics themselves were sanforized the sewing thread was not, with the result that collars showed a tendency to pucker. He said that this would be eliminated by the use of fiberglass thread.

Mr. Slayter also announced that the first reduction in fiberglass prices was about to be made. He said that on January 15th a new price list would be issued showing a 15 per cent downward revision in prices.

In his discussion on fiberglass, Mr. Slayter reminded his audience that few persons stopped to realize that about 50 per cent of all textiles go into other than clothing or household uses. He said that 12 per cent of the cotton used was employed to in electric cords. He said that developing fiberglass fabrics, originally the company had taken yarns developed to cover electric wires and put them on looms. He said that no consideration had been given as to whether they would crepe or not.

He stated that many of the fiberglass uses were industrial ones, which were invisible, such as pipe coverings, insulation and air filters. He said that by adding clay to fiberglass a kind of cement was produced which was used for insulating battleships. He also told of the use of fiberglass mats in storage batteries and related its successful use in airplane coverings.

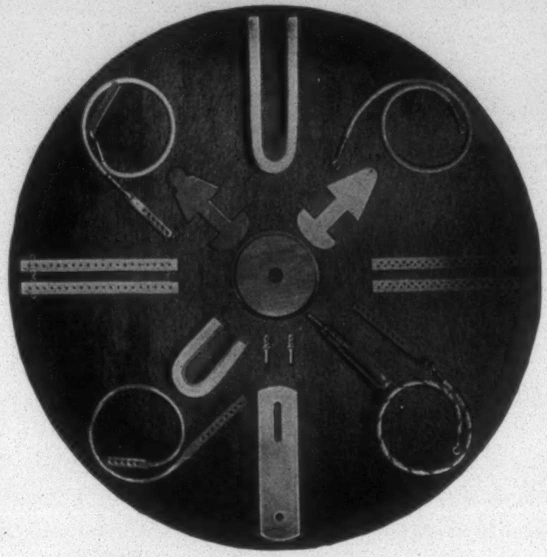
Mr. Slayter said that fiberglass fabrics had not been successfully dyed as yet. He stressed the extreme strength and elasticity of the material.

A wide variety of fiberglass materials were exhibited by him. These included an awning cloth and neckties which were 50 per cent fiberglass and 50 per cent silk. He stated that these ties were wrinkle-proof, since fiberglass neither took up moisture nor stretched. He also exhibited a 100 per cent fiberglass damask tablecloth which retails at $35. He said that such cloths had been washed more than 100 times without damage.

Mr. Slayter said that all Atlantic clippers were insulated with fiberglass, which picked up little moisture. He also said that it was possible to use fiberglass in automobile tires, although so far only experimental tires had been developed. He also reported that it was possible to combine fiberglass with either acetate or viscose rayon as well as with silk. He said that prices of yarns varied in accordance with size, with the standard number selling at $1.39. He said that this yarn was sold in cones up to four pounds in weight and that it had two and one-half turns per inch. He also reported that his company was experimenting with very coarse fiberglass as a substitute for jute.

At the business meeting which preceded Mr. Slayter's talk, Joseph Meirhans, chairman of the membership committee, announced that fifty new members had been admitted in 1940, bringing the total membership up to 206. He also announced the election of three new members this month. They are: Margaret Swanson, John Walter Fabrics; Eric Simmat, Julius Kayser & Co., and George W. Easley, Milligan & Higgins Corp.

PULASKI, VA.—Virginia Maid Hosiery Mills, Inc., are now installing additional new 30-section 51-gauge full fashioned hosiery machines. Present plans are said to include installation of a total of twelve of these additional machines, which are expected to be operated exclusively on nylon. Thomas J. Wallner is president and treasurer of the mill.



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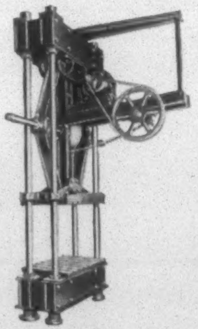

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Georgia and S. C. Mills Get Tax Rebates

Washington, D. C.—The Treasury reported to Congress that 55 Federal taxpayers in South Carolina received tax refunds of $500 or more on their payments during the 1940 fiscal year.

Most of the refunds were on income tax payments, but the largest amounts were principally to textile mills for processing taxes.

The largest single refund was $17,270 in processing taxes to Cowpens Mills, Cowpens. Other large refunds included $13,897 in similar taxes to Manetta Mills, Lando, and $11,533 to Travora Mills, York.

The list of refunds (income tax unless otherwise designated) follows:

Arkwright Mills, Spartanburg, $2,753; Blair Mills, Belton, $2,338; Broad River Mills, Gaffney, $1,907; Calhoun Mills, Calhoun Falls, $3,692; Gaffney Mfg. Co., Gaffney, $1,179; Glencoe Cotton Mills, Columbia, $962; Glenwood Cotton Mills, Easley, $1,649; Gossett Mills, Anderson, $3,868; Hartsville Cotton Mill, Hartsville, $897; Hermitage Cotton Mills, Camden, $1,533; Jackson Mills, Wellford, $4,553; Kenneth Cotton Mills, Walhalla, $1,720; Oconee Textile, Inc., New York, $1,156; Orr Cotton Mills, Anderson, $2,331; Pacolet Mfg. Co., Pacolet, $15,747; H. C. Townsend Cotton Mill, Anderson, $814.

The following processing tax refunds in excess of $500 were shown in the report:

Cowpens Mills, Cowpens, $17,270; Glencoe Cotton Mills, Columbia, $4,064; Manetta Mills, Lando, $13,897; Neely-Travora Mills, York, $11,533; H. C. Townsend Cotton Mill, Anderson, $1,000.

Georgia Tax Rebates

The following tax rebates in excess of $500 each were received by the following Georgia corporations during 1940:

Arnall Mfg. Co., Sargent, Ga., $1,967; Aldora Mills, Thomaston, $1,707 (unemployment tax); Aldora Mills, Thomaston, $5,151; Griffin Mills, Thomaston, $1,015; John P. King Mfg. Co., Augusta, $2,554; Pepperton Cotton Mills, Jackson, $2,474; Thomaston Cotton Mills, Thomaston, $3,643; W. C. Vereen, Moultrie, $1,578; Washington Mfg. Co., Tennille, $757; Crystal Springs Bleachery, Chickamauga, $1,776; Pepperton Cotton Mills, $7,836; Strickland Cotton Mills, Valdosta, $8,880; Union Mfg. Co., Union Point, $3,101.

Further Acreage Cuts in Cotton Opposed

Washington, D. C.—Any additional sharp reductions in cotton acreage are frowned by the Agricultural Department, which suggested that the industry's problems be attacked instead by devices to increase domestic consumption.

In an annual report, the department speculated on a possibility that 11,000,000 bales could be disposed of annually for use in this country.

In a section entitled "Cotton Crisis Deepens," the report pointed out that 1940-41 exports of cotton—even if they reached the outside figure of 2,000,000 bales—would be the lowest since 1871.

"Though the unfavorable export situation is not being reflected in farm income at present," it said, "there is almost certain to be an unhealthy increase in the Government loan stocks during 1940-41. At the end of the 1939-40 season, the Commodity Credit Corp. owned or held as collateral against loans nearly 8¾ million bales of cotton from earlier crops. This figure is likely to be increased as much as in 1940-41 as it was reduced in 1939-40.

"Total stocks of American cotton on hand at the end of the current season will also probably increase materially, despite the expected record domestic consumption. Foreign cotton production is somewhat larger than during the previous two seasons, and much larger than average."

It said the world stocks of cotton at the end of this season next August might exceed the previous peak of 8,900,000 bales August 1, 1938.

The report pointed out that some of the increase in world stocks might have been prevented by greater acreage limitations in the United States. It added, however, "there was and is doubt as to the advisability of much further permanent reduction in our cotton acreage."

It said farmers already had reduced plantings from more than 40,000,000 acres annually about 10 years ago to less than 25,000,000 acres in each of the last three years.

The report placed 1940-1941 domestic consumption at more than 8,000,000 bales, a record figure. One important factor in this increase, it said, has been the mattress-making program for low-income families. Some 400,000 to 500,000 bales may be furnished by the department for this purpose during the year ending next July 1st, it said.

Also figuring in the encouragement of higher consumption, the report added, are the cotton products exports program, the use of cotton for bale-coverings, the bale-coverings, the manufacture of fine writing papers from cotton, and efforts to expand the use of cotton for insulating houses.

Recent Textile Patents

Two patents relating to textiles were recently issued to Southerners, according to Eaton & Brown, patent attorneys of Charlotte, N. C.

One patent was issued to Frank M. Collier and assigned to Rock Hill Printing & Finishing Co., of Rock Hill, S. C. This patent relates to an improved cloth bin piler in which a plurality of motors give longitudinal and transverse motion to the cloth in rope form to pile it in the cloth bins disposed below the framework on which the traveling piler mechanism is disposed. The machine is sturdy in construction and consists of few working parts and therefore is not liable to get out of order.

The other patent was issued to Edwin C. Kieke and assigned to Dallas Cotton Mills, Dallas, Tex. It has the possibility of revolutionizing the drawing-in of steel heddles for harness frames. It is a mechanism whereby the steel heddles can be taken out of a loom harness frame and while the harness frame is left in the loom, the heddles being installed in the patented machanism where means are provided for positioning steel heddles and feeding them past the drawing-in needle so that when the harness eyes are all pierced by yarn ends and then the heddle bars and heddles are brought back and quickly installed in the loom harness frame.

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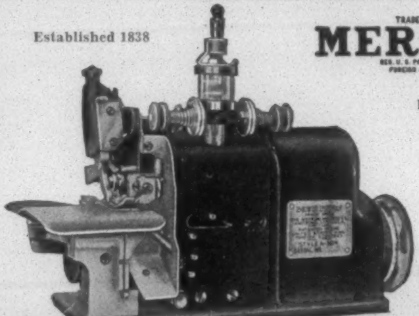

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E. I. DuPont 1940 Consolidated Net Is $86,945,173

Wilmington, Del.—E. I. du Pont de Nemours & Co., in a preliminary statement, reports consolidated net earnings of $86,945,173 for the year ended December 31, 1940, after a charge against earnings of 10 million dollars for the purpose of creating a special contingency reserve.

Earnings on the common stock were $7.23 a share, compared with $7.70 in 1939.

In the year ended December 31, 1939, du Pont showed net profit of $93,218,664.

The statement contains the following information on nylon:

"Nylon yarn won wide public acceptance in this its first year on the market. It has thus far been used principally by hosiery manufacturers, who made about 35 million pairs of women's nylon stockings in 1940; at the end of the year, women's nylon stockings were being manufactured at the rate of 68 million pairs annually.

"Nylon yarn also is being used in the manufacture of men's socks, sewing thread and in fishing lines. In the form of a monofilament, nylon is used for surgical sutures, racket strings, fishing leaders and as bristles for many kinds of brushes. It also is used as an insulation in coverings for electrical wires. Heavy nylon yarns are being used in parachute safety belts, straps and cords by the aviation industry.

"In November, the company reduced its selling prices of nylon by about 4 per cent.

"The first unit of the nylon yarn plant at Seaford, Del., began operations in December, 1939; the second unit in November, 1940. Construction of an additional plant at Martinsville, Va., was started in December, 1940."

Safety Slogan Contest Very Successful

The winner of the first Safety Slogan Contest sponsored by the North Carolina Industrial Commission for employees of all textile plants in the State have just been announced. The winner of the first prize of $10 for the best slogan submitted was Garland Gerringer, Ossipee Weaving Co., Elon College. The slogan submitted by him was "Sound Thinking Prevents Accidents."

The second prize of $5 was won by James Pritchett, Burlington Mills Corp., Cloth Finishing Department, Burlington, whose slogan was "Safety Is the Key to Security."

Fifteen prizes of $1 each were awarded to Julene Smith, Cramerton; John C. Paxton, Gastonia; C. C. Morrow, China Grove; Eloise Cloninger, Paw Creek; Winnie Bear, Burlington; W. C. Peeler, Balfour; Katherine McEntire, Paw Creek; D. M. Faires, Paw Creek; Mae Johns, Selma; P. S. Dicks, Greensboro; Fred Taylor, Hope Mills; Mattie Dean, Hope Mills; Russell L. Harwell, Mooresvile; Gladys M. Moore, Henderson, and L. M. Thompson, Paw Creek.

This is the first Safety Slogan Contest on a statewide basis ever attempted in the textile plants and Chairman Wilson, of the Industrial Commission, says that the results are very gratifying. It not only indicates that the employers are making every effort to make the textile plants safe for the employees, but that the employees themselves are becoming safety minded for their own protection.

The Commission and the North Carolina Cotton Manufacturers' Association have recently started the Sixth Statewide Safety Contest for all textile plants in the State. These contests were inaugurated in 1936 and since then the average frequency of lost-time accidents in plants participating has been reduced approximately 30 per cent. There are 287 plants entered in the sixth contest.

Erecting, Overhauling and Fixing Looms

(*Continued from Page 12*)

Checking the Warp Stop Motion

Faulty adjustment of the various parts of the warp stop motion is the cause of numerous imperfections in the cloth. As stated before, the warp stop motion should be checked thoroughly and needed adjustments made when the warp is off the loom. If this is done properly there will be little need of adjustments on this part of the loom while warp is on. However, sometimes the fixer will be called upon to make adjustments here when the warp is on. The trouble can be located and adjustments made easily by proceeding in the following manner: First, *think*. Do some reasoning. We know that the drop wire is supposed to drop to a point where it will be caught between the feeler bar and the serrated bar whenever a warp thread breaks, and by so doing put the knock off mechanism in position to stop the loom off. This being true, the first thing to determine is whether or not this is happening. If so, then determine if the drop wire is being held properly, and not crushed or bent by the feeler bar. (Excessive tension on the oscillator cam follower spring or the feeler bar shaft spring will not only cause the stop motion to fail to function properly, but will crush or bend the end of the drop wire and render it unfit for further use.) If so, then this would indicate that the trouble is in some part of the knock off mechanism. This trouble can easily be located by starting at the feeler bar shaft and checking the knock off mechanism through to the knock off finger. In making this check every connecting part should be carefully examined, because a very small amount of lost motion, caused by a loose nut or set screw or worn connection, will cause trouble. Also it is vitally important to make sure that the feeler bar comb is in line with the serrated bar for its full length and securely tight on the feeler bar fingers. An important thing to remember regarding all mechanical warp stop motions is that whenever the knock off finger is in position to contact the knock off bunter and stop the loom off, all the other movable parts of the stop motion should be setting exactly half way of their working or movable radius.

Oiling the Loom

For the best and most economical results, a sensible oiling system must be worked out and judiciously followed in the weave room. There is only one positive rule that can be given that will apply to all looms, and that is that all looms should be given a thorough cleaning and oiling whenever the warp is out. The local conditions under which looms are run will vary so widely that I think it would be very unwise for anyone to try to lay down a set of rule of the thumb rules to be followed in all weave rooms. The speed of the looms, the climate, the humidity, the weight of the fabrics being woven and other factors will enter in to render one fixed rule very impractical and unwise. My suggestion is that the men in charge work out their own oiling system for their looms.

Regarding the frequency of the oilings and the amount of oil used at the different places, my experience has been that an oil with medium high viscosity is best for oiling the loom. This grade of oil enables one to use one grade of oil and no greases for the entire loom, and will also minimize the danger from oil spots on the cloth. The loom fixers should see to it that the looms on their sections are kept well lubricated at all times. By so doing he will greatly increase the efficiency of the looms.

(*Continued in Next Issue*)

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Tax Rebates To North Carolina Mills

Among the North Carolina corporations and individuals receiving Federal tax rebates of $500 or more during 1940 were:

Alpine Cotton Mills, Morganton, $1,428; Amazon Cotton Mills, Thomasville, $2,156; American Enka Corp., Enka, $4,084; Beacon Mfg. Co., Swannanoa, $4,618; Burlington Mills Co., Greensboro, $884, unjust enrichment tax; Caldwell Cotton Mill Co., Lenoir, $833; Charles A. Cannon, Concord, $614; Joseph F. Cannon, Concord, $892; Cannon Mills Co., Kannapolis, $3,145; Caesar Cone, Greensboro, $644; Herman Cone, Greensboro, $2,050, gift taxes; Dover Mill Co., Shelby, $3,040; Durham Hosiery Mills, Durham, $4,859; Edenton Cotton Mills, Edenton, $2,843; Gastonia Combed Yarn Corp., Gastonia, $2,143; Larkwood Silk Hosiery Mills, Charlotte, $653; A. C. Lineberger, Belmont, $1,173; Linn Mills Co., Landis, $933; Minneola Mfg. Co., Gibsonville, $4,264; Nelson Cotton Mills Co., Lenoir, $3,033, unjust enrichment tax; North Carolina Finishing Co., Salisbury, $1,120, unemployment tax; Shelby Cotton Mills, Shelby, $2,680; Shuford Hosiery Mills, Hickory, $713; Superior Mills, Inc., Statesville, $4,290; K. S. Tanner, Spindle, $1,720; H. M. Yount, doing business as Newton Glove Mfg. Co., Newton, $1,368, unjust enrichment tax.

The following processing tax refunds in excess of $500 were shown in the report:

Aileen Mills Co., Troy, $2,520; Arista Mills Co., Winston-Salem, $3,100; Carolina Absorbent Cotton Co., Charlotte, $1,106; Chatham Mfg. Co., Elkin, $8,500; Cleveland Mill & Power Co., Lawndale, $10,000; Cliffside Mills, Cliffside, $65,000; Crescent Spinning Co., Belmont, $6,086; Erlanger Cotton Mills, Lexington, $9,269; Grace Cotton Mill, Rutherfordton, $1,329; Glencoe Mills, Burlington, $2,386; Glen Raven Mills, Glen Raven, $3,213; Hunter Mfg. Co., Greensboro, $18,418; Lawrence S. Holt & Sons, Greensboro, $3,213; Lily Mills Co., Shelby, $25,935; Manetta Mills, Monroe, $907; Mooresville Cotton Mills, Mooresville, $70,462; National Cotton Mills, Lumberton, $5,261; Neuse Mfg. Co., Neuse, $5,594; Nokomis Cotton Mills, Lexington, $4,725; Pee Dee Mfg. Co., Rockingham, $8,540; Ragan Spinning Co., Gastonia, $2,793; Sadie Cotton Mills Co., Kings Mountain, $6,207; Spinners Processing Co., Spindale, $2,627; Statesville Cotton Mills, Statesville, $4,192; Stowe Thread Co., Belmont, $6,488; Wade Mfg. Co., Wadesboro, $59,000; Weldon Cotton Mfg. Co., Weldon, $10,138; Wennonah Cotton Mills, Lexington, $6,000.

Correction

One of our readers has suggested that the identification of the photos in the Acme Steel story appearing in our February 1st issue was the work of a southpaw editor, as the photos were numbered in exact reverse of the usual order.

Reading from left to right, the Acme officials, all of whom are well known in the textile industry, are: R. H. Norton, C. S. Traer, C. J. Sharp, C. M. MacChesney and T. A. Rand.

George R. West Honored By Dixie Mercerizing Employees

Mr. and Mrs. George R. West, Jr., are shown below, photographed with the bronze plaque presented to Mr. West by the employees of the Dixie Mercerizing Co.

Following the transaction of routine business at the recent annual gathering of employees of the Dixie Mercerizing Co., George R. West, Jr., president, was presented with a plaque, emblematic of the esteem and appreciation of the employees. The plaque is a bronze plate, 23x27 inches, with the engraved facsimile signatures of employees with from two to 20 years of continuous service.

The plaque contains the following inscription: "Presented to George R. West, Jr., by the employees of the Dixie Mercerizing Co., December 25, 1940, as a token of our esteem and in appreciation of the pleasant years of association, we deem it a privilege to inscribe our names as a tribute to his fair dealing and effective leadership—and because of our confidence in him, we pledge our loyalty, and wish for him continued success, health, and happiness."

The employees worked all year on the project and even though the engraving of the signatures started in August, and the plan was known to the employees before that time, it was kept a secret from the officers of the company and came as a complete surprise.

Mr. Barnes, superintendent of the Mercerizing Department, said: "This attitude of co-operation and appreciation has always existed at Dixie."

Mr. West said: "The token is more than a beautiful work of art. It will serve as a reminder of the pleasant associations I have had here, and it will be a real inspiration when I try to live up to the honor that has been bestowed upon me.

"The employees of this company are the ones responsible for its success. They have always been more than willing to co-operate in every way with all officers and foremen."

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AMERICAN MOISTENING CO., Providence, R. I. Sou. Plants, Charlotte, N. C., and Atlanta, Ga.

AMERICAN VISCOSE CO., 350 Fifth Ave., New York City. Sou. Office, Johnston Bldg., Charlotte, N. C. Harry L. Dalton, Mgr.

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Because of Vinyon's unique properties, many interesting qualities are claimed for these new gloves. They are said to be extremely easy to keep clean. Since the yarn is completely non-absorbent, dirt and grease stains, such as lipstick, remain on the outside surface where they can usually be removed by simple washing in plain soap solution. Even stubborn stains, like ink and tobacco, can be removed easily, without damage to the fabric, by means of strong bleach solutions or ink eradicators which are ordinarily harmful to other fabrics.

Since Vinyon absorbs no moisture, these gloves are listed as "shrink-proof." Laboratory tests bear this out, and the makers therefore recommended that they should be purchased to exact size, with no allowance for shrinkage. They should be washed on the hands, in ordinary, luke-warm solution. When wiped with a towel and hung and dry, they are ready to wear again in 30 to 40 minutes.

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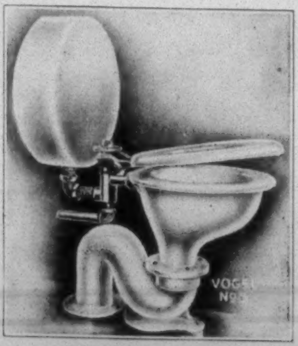

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